

KEFI Gold and Copper, KEFI.L

The most compelling way to play the Arabian-Nubian Shield



Simon Francis simonfrancis@oriorcap.com +852 9389 5506 13 May 2024

Important Disclaimer

This document is a marketing communication sponsored by KEFI Gold and Copper (KEFI); however, this document has been prepared by Orior Capital, an independent third party, which is and shall continue to be the owner of this document.

It is being supplied to you solely for your information, and it is for informational and educational purposes only.

The information contained in this document has not been prepared or verified by KEFI, and neither this document nor the information contained in it should be considered as being endorsed by KEFI or a recommendation by KEFI (or any of its directors, officers, agents, employees or advisers) in relation to investment in KEFI.

This document is not investment advice.

This document does not and could not take into account your financial situation, objectives, needs, risk appetite, and other factors pertaining to your circumstances. It is not personalised to your specific situation and is not personal investment advice. You should consult with a qualified financial advisor before making any financial decisions

While every effort is made to ensure the information, facts, figures, data and analysis in this document are accurate, reliable and credible, this document and the information contained in it has not been verified for its accuracy and certainty, and is subject to material updating, revision and further amendment, and therefore the information contained in this document is not a substitute for your own independent investigation and analysis. Any opinions expressed in this document are opinions only and nothing more.

Neither KEFI nor the owner of this document is responsible for any errors or admissions. Therefore, in furnishing this document, neither KEFI nor the owner of this document undertake or agree to any obligation to provide you with access to any additional information or to update this document or to correct any inaccuracies in, or omissions from, this document which may become apparent. This document does not constitute an offer or invitation to subscribe for or purchase any securities and neither this document nor anything contained herein shall form the basis of any contract or commitment whatsoever. In particular, this document is for information purposes only and does not constitute an offer or invitation to subscribe for or purchase any securities.

This document may contain forward looking statements, estimates and projections which are subject to risks, uncertainties and factors that may cause the results and outcomes to differ materially from those discussed herein. These forward-looking statements, estimates and projections may constitute statements regarding intentions, beliefs or current expectations concerning, among other things, KEFI's operations, condition, prospects, revenue generation, growth, strategies and the industry in which KEFI operates. By their nature, forward-looking statements, estimates and projections involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future, and actual outcomes could differ materially and adversely due to a range of factors. Such forward looking statements are not endorsed by KEFI, but in any case, these forward-looking statements, estimates and projections speak only as of the date of this document and neither KEFI nor the owner of this document undertake any obligation to release any revisions to these forward-looking statements, estimates or projections to reflect events or circumstances after the date of this document.

By reading this document you acknowledge, submit and adhere to this disclaimer and accept the liabilities incurred from your own decisions. All information in this document is subject to change without notice, and therefore you and any other person who receives this document should not rely or act upon it. Using this document and the information contained within it is at your own risk. Accordingly, neither KEFI nor any of its directors, officers, agents, employees or advisers take any responsibility for, or will accept any liability or responsibility for any loss, damage, cost or expense whether direct or indirect, express or implied, contractual, tortious, statutory or otherwise, in respect of, the accuracy or completeness of this document or the information contained in this document, or for any of the opinions contained in this document, or for any errors, omissions or misstatements or for any loss, howsoever arising, from the use of this document and the information contained in this document.

The owner of this document may or may not own shares in the companies discussed in this document. The owner of this document has a long position in KEFI.

This document is distributed free of charge and any unauthorized copying, alteration, distribution, transmission, performance, display or other use of this material, without prior consultation with the owner of this document, is prohibited.

Index

Executive summary	4
Key financial data	7
Three key projects in development	9
KEFI looks compellingly cheap	13
It's happening	17
Tulu Kapi on the cusp of development	21
Jibal Qutman: substantial growth potential	27
Hawiah: a regional VMS deposit in the making	32
Huge exploration portfolio	41
Appendix 1: Tulu Kapi, Ethiopia	46
Appendix 2: Saudi Arabia	50
Appendix 3: The Arabian-Nubian Shield	53
Appendix 4: Companies mentioned	59

Executive summary

KEFI Gold and Copper (KEFI) is exploring and developing mining assets in Ethiopia and Saudi Arabia, part of the vast and highly prospective Arabian-Nubian Shield. KEFI's most advanced project is Tulu Kapi in Ethiopia which has planned production of 200,000 oz gold pa, and in which the company is expected to own an 80% stake after financing. KEFI also owns 25% stakes in the Jibal Qutman gold project, and the Hawiah VMS project, both in Saudi Arabia, through its Gold and Minerals joint venture, in which it provides technical input and oversight to the majority Saudi partner. The company has assembled substantial exploration areas in both Ethiopia and Saudi Arabia that host known gold and VMS occurrences and historical mines.

KEFI looks compellingly cheap: Valuing Tulu Kapi as a development project at US\$1,000/oz of attributable planned production, and Jibal Qutman and Hawiah on attributable resources at US\$70/oz gold or gold-equivalent (AuEq), in line with peers, suggests a current valuation for KEFI of 2.9p/share, 4x the current share price. This is conservative; no value is attributed to the potential for more significant underground development at Tulu Kapi, to the vast exploration portfolio in Saudi Arabia, or to the fact that unlike most project developers, KEFI is close to being funded into production. The market is not yet factoring in the regulatory turnarounds in Ethiopia and Saudi Arabia over the past couple of years.

Assuming development of the two projects in Saudi Arabia is staggered, with development commencing after that of Tulu Kapi, then **by early-2028**, all three of **KEFI's current projects are expected to be in production.** A four year valuation factors in attributable production of almost 260,000 oz gold and gold-equivalent pa, including 160,000 oz from Tulu Kapi. Valuing this at US\$3,000/oz of production, which is typical for portfolios of African gold producers, **suggests a valuation of 5.9p/share.** This is 8x the current share price.

Tulu Kapi on the cusp of development: KEFI announced, 7 May 2024, the remaining finance syndicate board processes are on track for final conditional approvals this month. **These approvals are seen as a significant positive catalyst for the shares.** In March, KEFI said that all of the required development budget of US\$320m has been sourced at the subsidiary level. Eastern and Southern Trade and Development Bank (TDB), the lead lender, has approved its US\$95m tranche, and co-lender, Africa Finance Corporation (AFC) has confirmed its approval processes are underway for its intended US\$95m. Regulatory changes in Ethiopia, including the deeming of the reinvestment of local currency (Ethiopian BIRR) retained earnings in multi-national corporations as foreign direct investment (FDI), has made for an improved equity structure. The funding consortium also includes the Ethiopian division of a global industrial company. It is unusual for a company the size of KEFI to assemble a funding consortium of such expertise.

KEFI is now focused on launching Tulu Kapi in mid-2024 for production to commence in mid-2026.

Robust project: Tulu Kapi financial modelling is currently based on total production of 1.3 Moz gold over an 8-year mine life, assuming a processing rate of 2.4Mtpa which includes a conservative amount from underground production. On this basis, production is expected to reach 173,100 oz in the first year of production and ultimately, about 200,000 oz pa. At the current consensus long-run gold price forecast of US\$1,965/oz gold, Tulu Kapi is expected to generate average annual operating cash flow of US\$174m in the first seven years.

In reality, Tulu Kapi is likely to operate for 12 years or more. The open pit mine plan is still based on a cut-off grade of 0.5 g/t Au which was derived from a gold price of US\$1,098/oz. At current gold prices, the open-pit operation could be extended by an estimated one to two years. Similarly, the 2014 JORC compliant underground resource is based on a cut-off grade of 3.5 g/t gold, established when the gold price was US\$1,252/oz. The underground contribution only includes material from the ore zones accessed whilst establishing underground drilling platforms to conduct extensional drilling on the down-plunge potential. Further, the resource is open down plunge to the north; the northern most drill hole included in resources, TKBH_293, returned 90m at 2.8 g/t gold. The underground resource remains relatively underexplored. Expanding the underground resource would increase the blended grade being processed, and this would be expected to result in greater output, lower unit costs, greater profitability, and a longer mine life.

Ethiopian exploration area highly prospective: The areas reserved for KEFI via three exploration licences cover a vast 1,120 km² that host two NNE-trending structures, parallel to the Tulu Kapi trend. Management's target is to identify some 300,000 oz to 500,000 oz of oxide material grading 1.5 g/t gold or better from within the areas reserved that could either supplement ore feed to the plant at Tulu Kapi, or be developed as separate heap leach operations. This could enable production of an initial 50,000 oz pa that would benefit from low strip ratios, low costs, and high gold recoveries. This is not factored into the current or 4-year valuations.

Ethiopian gold sector takes off: Allied Gold, listed in Toronto with a current market cap. of US\$640m and expected to produce 375,000 oz to 405,000 oz gold this year from mines in Mali and Ivory Coast, said it had approved development of the Kurmuk project in Ethiopia. Kurmuk is expected to produce 240,000 oz gold pa over 15 years. Upfront capital costs are estimated at US\$500m. Also nearby to Tulu Kapi is the only existing major Ethiopian gold mine, Lega Dembi, which is being modernised and deepened to extend its mine life under 21st century standards. These developments stand as further testament to the great strides made by the Ethiopian Government in updating its regulatory environment.

According to KEFI, Ethiopia's top five gold development projects look like boosting Ethiopian gold production from around 400,000 oz pa now to some 1.5Moz pa in the next five years.

Jibal Qutman set for increased production: Gold and Minerals' 13,000m drill program, targeting some 7kms in the original discovery zone is nearing completion. This zone represents approximately one-quarter of the entire 30kms of strike length. Combined with the prospecting that has commenced across the remainder of the exploration licence areas, the expectation is for a substantial increase in resources at Jibal Qutman. This is expected to present a number of development scenarios, with management aiming to define a preferred case within the next few months. Gold and Minerals also aims to undertake scout drilling at the remaining relatively untested 23 kms of strike length.

In January 2024, KEFI announced the discovery of the Asfingia satellite deposit, situated approximately 1km west-northwest of one of the planned open-pits and close to the existing resource. Drill hole JQD_232 intersected 9.2m (estimated true width) at 7.9 g/t Au from 53.6m **inc. 1.2m at 66.6 g/t Au.** Asfingia was discovered when Gold and Minerals was testing a cross-fault off the main trend of mineralisation identified to date. The cross structures are prevalent across the whole of the 30km trend at Jibal Qutman, and these will be tested in upcoming drilling.

Hawiah is already a Top 100 VMS deposit globally by tonnage: It ranks as one of the three largest base metals projects in Saudi Arabia and is larger than Tulu Kapi in terms of contained metal value, despite only having been discovered recently. Gold and Minerals is currently undertaking a substantial 65,000m drill program, aiming to develop a maiden Ore Reserve. Whilst the program is substantially in-fill, drilling has significantly extended the depth of known mineralisation at Crossroads Extension suggesting potential for further resource growth. Further, KEFI announced a discovery at Abu Salal which lies some 50km south of Hawiah. Abu Salal is a 2.5km long gossanous structure that could provide significant tonnage to a plant at Hawiah. Further drilling is required. Assuming three years for completing a DFS, financing and construction, Hawiah could come on stream end-2027.

Saudi Arabia funding: Saudi Arabia is keen to develop its rich mineral endowment, to boost local employment, and to help steer the economy away from its reliance on oil. In 2019, the Saudi Industrial Development Fund (SIDF) said it would provide loans for up to 75% of mining project costs, including for resource delineation. Given KEFI's 25% stake in Gold and Minerals, KEFI's equity stake in project capex could be as little as 6.25%. KEFI and its partner have been approached by a number of investors looking to participate in the take-off in Saudi Arabia. Development funding in Saudi Arabia is unlikely to be dependent on what have for some years been weak public markets for junior miners.

Huge exploration portfolio: Having been awarded 14 new licences in the past couple of years, Gold and Minerals holds a substantial 1,035 km² exploration portfolio across what can be classified as six highly prospective gold and polymetallic mineral project areas. All these areas have been mapped or sampled by Gold and Minerals, or by groups such as BRGM or USGS. The portfolio has already yielded the discovery at Abu Salal. Two new licences at Jibal Qutman offer the potential for resource growth along strike from existing resources. Other licences cover four new project areas and represent new frontiers for KEFI. There is significant upside potential beyond that at Jibal Qutman and Hawiah.

Strong partner in Saudi Arabia: KEFI has been operating in Saudi Arabia since 2008. Its majority JV partner is Abdul Rahman Saad Al Rashid and Sons Company Limited ("ARTAR"), which is a leading industrial group involved in construction, real-estate, agriculture and health care.

Tremendous geological potential: The Arabian-Nubian Shield hosts the largest known Neoproterozoic gold resource on Earth. The combination of the subduction-related origin of the Shield, widespread shearing, and metamorphism associated with late Neoproterozoic orogeny are highly favourable for the development of a variety of gold deposit types. Yet, despite this favourable geological setting, and its rich history, the region remains relatively unexplored in modern times. As a result, opportunities abound. With Tulu Kapi being the first modern gold mine in Ethiopia, and the substantial scale in Saudi Arabia, KEFI can be considered one of the leading players in the Arabian-Nubian Shield.

Share price catalysts in the near-term: Tulu Kapi: continuing finance approvals, early works (pre-engineering and community resettlement action plan), financial close and step up to full construction. Jibal Qutman and Hawiah: updated mineral resource estimates targeting increased ore reserves and preferred development scenarios; Large exploration pipeline in both Ethiopia and Saudi Arabia.

With Tulu Kapi on the cusp of development and Saudi Arabia going full steam ahead, KEFI shares look incredibly cheap. That's an opportunity for investors.

Simon Francis

May 2024

Key financial data

LSE code		KEFI.L
Share price, 10 May, 2024	pence/share	0.71
Shares on issue	Millions	5,881
Options and warrants	Millions	764
Fully diluted shares	Millions	6,646
Market capitalisation.	£ millions	41.8
Net cash, estimated	£ millions	1.0
Enterprise value	£ millions	40.8

Source: KEFI

Key Management:

Harry Anagnostaras-Adams, Executive Chairman, B. Comm, MBA: Mr Anagnostaras-Adams was founder or co-founder of Citicorp Capital Investors Australia, investment company Pilatus Capital, Australian Gold Council, Atalaya Resources, KEFI Gold and Copper and Cyprus-based Venus Minerals. He has set up or overseen a number of successful start-ups in gold, copper, industrial minerals and natural gas through the roles of Chairman, Deputy Chairman or Managing Director. He is a qualified Chartered Accountant and a Fellow of Australian Institutes of Management & Company Directors.

John Leach, Finance Director, BA Ec, MBA, CA (Aust & Canada): Mr Leach has over 25 years' experience in senior executive positions in the mining industry internationally and is a former nonexecutive Chairman of Australian-listed Pancontinental Oil and Gas NL. He is a Chartered Accountant in Australia and Canada, and is a Fellow of the Australian Institute of Directors.

Eddy Solbrandt, Chief Operating Officer, Ethiopia, People & Systems: Mr Solbrandt began his career in the mining industry in 1986 and has since worked in open cut and underground metalliferous mines, as well as in coal, gold and mineral sands in Australia, New Zealand, USA, Canada, Mexico, UK, Ukraine, Russia, Kazakhstan, Indonesia, Thailand, South Africa, Mozambique and Namibia. He is founder of GPR Dehler, an international management consultancy which specialises in productivity improvement for mining companies worldwide, especially in the areas of human resources development and performance improvement. Mr Solbrandt is adept at providing swift assessment, analysis and development of solutions and strategies for achieving strategic, operational and financial objectives integrating process, people and technology. He is a seasoned facilitator experienced in designing and conducting strategy workshops.

Rob Williams, GM Group Development: Rob commenced his career in mining as an underground miner in 1978. In the subsequent 25 years he completed post-graduate tertiary qualifications in Mining Engineering, Business Administration and Finance while working in every operational area and support function (in most cases at a leadership level) on a variety of mine sites including Bougainville (Rio, copper) and Henty (Barrick, gold). Since that time Rob has worked in studies and project management for BHP (Olympic Dam, copper) and the company now named Atalaya Mining (copper). He is adept at project planning and evaluation on both technical and financial levels as a result of his deep multidisciplinary experience.

Simon Cleghorn, Technical Projects Advisor: Simon graduated from the Western Australian School of Mines in 1989 and was initially employed as a mine geologist in Australia. He has then worked as a resource geologist and technical services manager in increasingly executive roles, primarily working on gold and base-metals projects in the various countries of the former Soviet Union, South-East Asia and Eastern Africa. Simon has often been involved in change management situations for mining projects requiring a new approach to increase efficiencies and profitability.

Norman Green, Development: Norman is a graduate mechanical and professional engineer with the key experience of having managed large mining and refining construction projects from concept to completion with more than 30 years' experience in this field. Major projects such as the Hillside Aluminium smelter, the Skorpion Zinc project, and the Husab Uranium mine are included in his handiwork, as well as a number of pure deep level underground mines.

He founded and built Green Team International (GTI) into a successful project engineering firm providing or supporting construction implementation and other engineering support to mainly African mines. Projects studied or handled by GTI as the Project Implementation Team or "Owner's Team" included major gold, uranium, copper, nickel, iron ore and platinum projects in Namibia, South Africa, DRC, Peru and Madagascar. Norman now conducts projects of special interest with his long-standing associates.

Theron Brand, Managing Director, TKGM: A Namibian national with a career in African mining including 20 years as Financial and Personnel Manager at Navachab Gold Mine, Namibia and Chief Mine Administrator Northern Areas, Namdeb Diamond Corporation

Abera Mamo, Country Manager, TKGM: An Ethiopian national with a career in senior management in the Ethiopian private and public sectors including as CEO at manufacturing company Techno Style plc, General Manager at Sher, Africa's largest flower farm, and as Deputy CEO at Ethiopian Sugar Corp. He was also Deputy Head of the Oromia State President's Office.

Brian Hosking, Saudi Arabia: Brian has established a strong international reputation as a consultant with an in-depth knowledge of the industry. In this capacity, he was regularly retained as a strategic advisor to executive management teams and boards in mining industry.



Figure 2: KEFI Gold and Copper share price chart



Three key projects in development

- At Tulu Kapi, remaining finance syndicate conditional approvals are expected this month; recent regulatory changes mean an improved equity structure
- At Hawiah and Jibal Qutman, maiden Ore Reserves and the selection of preferred development paths are expected this year
- New discoveries at both Saudi projects suggest excellent potential for further resource growth

KEFI has 3 projects expected to come on stream in the next four years, starting with Tulu Kapi in mid-2026.

Over the past few months, Orior Capital has met with KEFI's senior management, the in-country partners and management, and the Tulu Kapi finance-syndicate leaders. It is clear that KEFI has developed solid relationships in both Ethiopia and Saudi Arabia, and that both jurisdictions have recently turned a corner for the better, prioritising the mining sector and KEFI's projects specifically, recognising their early-mover status.

KEFI has discovered, and taken over and overhauled, three development projects whilst avoiding an overreliance on the public equity markets during the past decade of relative weakness. In doing so, KEFI has developed a wide circle of local relationships which should serve to protect the various projects' momentum even if the current early signs of improving public stock market sentiment reverse for the sector as a whole at any stage.

Tulu Kapi, Ethiopia

KEFI announced, 9 May 2024, the remaining finance syndicate board processes are on track for final conditional approval this month. In March 2024, KEFI reported that all of the required development budget of US\$320m has been sourced at the subsidiary level. The lead bank, Eastern and Southern Trade and Development Bank (TDB), has approved its US\$95m tranche, and co-lender, Africa Finance Corporation (AFC) has confirmed its approval processes are underway for its intended US\$95m.

Area of expertise	Parties involved
Process plant construction	Lycopodium
Mining services	PW Mining
Electricity supply, maintenance	Ethiopian Electric Power Company
New access road	Ethiopian Roads Authority
Debt Finance (US\$190m)	East and Southern Trade and Development Bank, and African Finance Corp
Equity Finance (US\$130m)	Subscribers to new shares in Tulu Kapi Gold Mines (TKGM) including the
(in addition to US\$100m	Ethiopian Ministry of Finance, the Oromia Regional Government, the Ethiopian
historical investment)	Evangelical Church of Mekane Yesus (which helps align corporate and community
	interests), KEFI Minerals (Ethiopia), the primary sponsor which provided all
	historical investment and assembled the development finance, and regional
	private equity financiers in KME and subscribers to KME loan instruments.

Figure 3: Tulu Kapi lead syndicate

Source: KEFI

Recent regulatory changes have facilitated improvements to the equity structure, lowering overall finance costs. These changes include foreign exchange exemptions, an increase in the permissible debt-to-equity funding ratio to 80:20, and the deeming of the reinvestment of local currency (Ethiopian BIRR) retained earnings in multi-national corporations as foreign direct investment (FDI). KEFI can now focus on the lower cost Equity Risk Note (ERN) (fixed at 12%) which is repayable in cash from operations in Year 4 or convertible at prevailing share prices, and at KEFI's option. KEFI also notes that a well-established MNC investor has received initial board approvals to participate in the ERN.

KEFI has assembled an incredibly experienced syndicate to finance what is the first industrial scale mine development in Ethiopia for more than 30 years.

Management plans to formally launch the project in mid-2024 with a scheduled build-up of activities carefully sequenced around the community's demonstrated readiness for resettlement and smooth ramp-up of Government-led preparations. Construction and commissioning are expected to take 24 months. The open-pit operation is expected to start-up from mid-2026.

The decline for the underground mine is expected to start 6 months after the open-pit operation commences. Initial contribution from the underground mine could start in early-2027. Some of the material removed during the construction of the decline is likely to be ore that can blended with material from the open-pit.

Jibal Qutman, Saudi Arabia

KEFI's joint venture, Gold and Minerals, now expects to have a wider range of development options at Jibal Qutman. While a heap leach plant is the natural choice for a sub-1.0 g/t gold, shallow deposit, and remains an option for Stage 1, the greater expected scale of the resource is likely to result in a range of alternative cases that need to be considered. KEFI expects the preferred case to emerge in the next few months.

Hawiah, Saudi Arabia

Gold and Minerals' current substantial 65,000m drill program with the aim of developing a maiden Ore Reserve which is expected to be completed in late-2024. Whilst the program is substantially in-fill, drilling has significantly extended the depth of known mineralisation at Crossroads Extension suggesting potential for further resource growth. KEFI has also announced a discovery at Abu Salal which lies some 50km south of Hawiah. Abu Salal is a 2.5km long gossanous structure that could provide significant tonnage to a plant at Hawiah. Further drilling is required. Assuming two and a half years for financing and commissioning, Hawiah could come on stream around end-2027.

Saudi Arabia financing

The Saudi Industrial Development Fund (SIDF) is a sovereign wealth fund of the Saudi Arabian government. It was founded in 1974 to provide mid- and long-term financing to private industrial companies. In 2019, SIDF announced it would commence lending to the mining sector in order to better align itself with Saudi Arabia's economic development goals set out in Vision 2030. The fund has said it will provide loans for up to 75% of project costs, including for resource delineation activities, and for mining service companies. Given KEFI's 25% stake in Gold and Minerals, KEFI's equity stake in project capex is likely to be as little as 6.25%. The combined capex for Hawiah and Jibal Qutman is estimated at US\$400-500m, for which KEFI would be expected to fund £20-25m between 2025 and 2027 from a combination of off-take-linked finance and equity. A local IPO, or the introduction of other

partners, are also possibilities.

Regional Exploration

In addition to these projects, Gold and Minerals has secured a number of exploration licences that may enable KEFI to build a pipeline of projects that can be developed over the following few years.

Comments
Post-tax NPV₅ of cUS\$600m based on US\$1,965/oz gold
KEFI expected to own approximately 80%
Reserves of 1.06 Moz at 3.25 g/t gold based on US\$1,098/oz suggesting scope to bring
additional material into reserves
Resources of 1.72 Moz at 2.65 g/t gold; the underground portion only includes mineralisation
directly below the open-pit
Updated DFS completed in 2017 and Mine Plans in 2018 and 2020
Construction expected to start mid-2024 with first production in mid-2026
Exploration licence applications covering some 1,120 km ² are being reviewed
Reconnaissance exploration demonstrates the potential to develop a number of open pits
that would be amenable to heap leaching; KEFI targets resources of 300-500 koz gold
All projects are operated through Gold and Minerals, in which KEFI owns 25%
KEFI's 75% JV partner is Abdul Rahman Saad Al Rashid & Sons
An important discovery and hosted in a VMS belt offering significant potential
Resources of 29.0Mt at 0.89% Cu, 0.94% Zn, 0.67 g/t Au and 10.1 g/t Ag
The combined Hawiah-Al Godeyer resource stands at 30.4Mt at a 1.7% copper-equivalent
for 510,000 tonnes CuEq, or 2.5 g/t gold-equivalent for 2.5Moz AuEq
PFS incorporating the 2022 exploration results was released in June 2023.
Two Exploration Licences, located immediately southwest of Hawiah
System analogous to Hawiah based on trench work and geophysical surveys
Current resource of 1.35Mt at 0.6% Cu, 0.54% Zn, 1.4 g/t Au and 6.6 g/t Ag
The focus is on identifying mineralisation that can be incorporated into the
early years of a combined Hawiah-Al Godeyer mine plan
Resource of 733,000 oz gold at 0.8 g/t, remains open at depth in the sulphides
Assumed recoveries of 90% in the oxides and 70% in the sulphides will restrict the Resource
to Reserves conversion; offsetting this, the recent discovery at Asfingia on a cross fault
suggests significant potential resource upside
Current resource sits in the central 7km section of the licence area; Gold and Minerals plans
to explore the entire 30km strike length
Gold and Minerals holds a huge exploration licence portfolio including some
very highly prospective areas for gold and polymetallic VMS mineralisation:
The Abu Salal South, Abu Salal North and Umm Al Khabath licences in the
Wadi Bidah Mineral Belt, south of Hawiah
The Wadi Na'afa and Al Awja licences situated in the Lorelon Mineral Belt
The Jabal Selm licence about midway between Hawiah and Jibal Qutman
The Jadib al Qahtanah licence in the central part of the Arabian Shield
The Jabal Hillit and Qunnah exploration licences in the eastern part of the Arabian Shield
Gold and Minerals has applied for other exploration licences which include

Figure 4: KEFI projects in Ethiopia and Saudi Arabia

Total

Source: KEFI, Orior Capital



Figure 5: Gold and Minerals' project areas in Saudi Arabia

Source: KEFI

KEFI looks compellingly cheap

- Valuing Tulu Kapi as a development asset and the Saudi Arabian projects on resources, suggests a valuation of 2.9p/share, 4x the current share price
- Bringing all three projects into production over the next 4 years could underpin a valuation of 5.9p/share, 8x the current share price
- Further valuation upside could be driven by developments at the underground mine and satellite deposits at Tulu Kapi, and by new projects in Saudi Arabia

There are a number of gold companies operating in Africa, from early stage explorers to established producers. Portfolios of African gold developers typically trade at EVs of around US\$1,000/oz of planned production. As companies enter production, development risks dissipate, cash flow becomes positive, and companies tend to get re-rated. Portfolios of gold producers tend to trade around US\$3,000/oz of production. Actual valuations depend on various factors including which companies are included in the sample, the stage of development or the time to expected cashflow, planned production, expected all-in sustaining costs, jurisdiction, earnings guidance (and adherence to it), the perceived outlook for gold, and other factors. Earlier stage assets with resources, but no feasibility study, currently trade at a weighted average of ~US\$70/oz of total resource.

Current valuation 2.9p/share

Valuing Tulu Kapi as a development stage asset (US\$1,000/oz of attributable planned production), and Hawiah and Jibal Qutman on attributable resources (US\$70/oz gold or gold-equivalent) suggests a current valuation of 2.9 p/share. No value is attributed to the potential for more significant underground development at Tulu Kapi, nor to the vast exploration portfolio in Saudi Arabia. **The market is valuing KEFI at a 76% discount to this valuation.** Alternatively, the market is valuing the Tulu Kapi project at just US\$319/oz of planned production, and ascribing no value at all to the projects in Saudi Arabia. **On this basis, KEFI looks unjustifiably cheap.**

Timeframe	Valuation pence/share	Comments
Current	2.9p	Tulu Kapi valued at US\$1,000/oz planned output, typical for African gold developers
		Tulu Kapi financial close targeted for mid-2024, project start-up expected 2026
		Hawiah, Jibal Qutman valued at US\$70/oz Au or AuEq resource, in line with peers
Early-2028	5.9p	Projects valued at US\$3,000/oz production, a typical valuation for African gold producers
4 years		Tulu Kapi based on 200,000 oz Au pa; no upside from the underground mine or potential
		satellite deposits factored in
		Hawiah based on production of 322,000 oz AuEq pa, representing a 50% increase in
		resources, a conversion to Ore Reserves of 87.5%, and a mine life of 10 years
		Jibal Qutman based on production of 77,000 oz Au pa, representing a 50% increase in
		resources, a conversion to Ore Reserves of 70%, and a mine life of 10 years
		An increase in shares outstanding, including to reflect the conversion of instruments to
		fund Tulu Kapi, to 7.6bn shares
		No upside potential from other projects factored in

Figure 6: Valuation framework and potential outcomes

Source: Orior Capital

4-year valuation 5.9p/share

Over the next 4 years, all three of KEFI's current projects are expected to enter production. Tulu Kapi is expected to start-up in 1H26. The 4-year valuation factors in production of 200,000 oz pa at Tulu Kapi (80% KEFI), 322,000 oz pa at Hawiah and 77,000 oz pa at Jibal Qutman (both 25% KEFI). This attributable production of 259,750 oz pa is valued at US\$3,000/oz in line with peers.

The current resource at Hawiah is calculated to be 2.5Moz AuEq. The 4-year valuation builds in an assumption for 50% resource growth, an 87.5% conversion to Ore Reserves and a mine life of 10 years. Similarly, at Jibal Qutman the assumptions are for 50% resource growth, a 70% conversion to Ore Reserves, and a mine life of 10 years. **These assumptions for resource expansion are considered conservative**, especially over a timeframe of four years.

The debt assumption is based on KEFI's 80% stake in the US\$190m Tulu Kapi funding debt, and assumptions about the capex in Saudi Arabia, the likely debt funding percentages (assumed to be 75% for Hawiah and 65% for Jibal Qutman) and KEFI's 25% stake.

The 4-year valuation factors in an assumption around the conversion of the convertible instruments issued to fund Tulu Kapi into production as well as additional equity. Over the next four years, the number of shares in issue is expected to increase by approximately 30% to 7.6bn shares outstanding.

Exchange rate, £:US\$1.245		
Current valuation		£m
Tulu Kapi	200,000 oz Au pa at US\$1,000/oz, 80% stake	128.0
Hawiah, Al Godeyer	30.4Mt at 2.5 g/t AuEq, 2,452,000 oz AuEq at US\$70/oz, 25% stake	34.3
Jibal Qutman	733,000 oz Au, at US\$70/oz resource, 25% stake	10.3
Asset value		172.6
Shares outstanding		5,881
Valuation, pence per share		2.9
4 years valuation		
Tulu Kapi	200,000 oz Au pa at US\$3,000/oz, 80% stake	384.0
Hawiah, Al Godeyer	322,000 oz AuEq pa at US\$3,000/oz, 25% stake	193.2
Jibal Qutman	77,000 oz Au pa at US\$3,000/oz, 25% stake	46.2
Asset value		623.4
Assumed debt	Tulu Kapi funding, US\$190m, 80% stake, Saudi Arabia debt	172.4
Net asset value		451.1
Shares outstanding	Assumed conversion of funding instruments, and new equity	7,636
Valuation, pence per share		5.9
Blue sky valuation		
Tulu Kapi, plus areas	300,000 oz Au pa at US\$3,000/oz, 80% stake	576.0
Hawiah, Al Godeyer	322,000 oz AuEq pa at US\$3,000/oz, 25% stake	193.2
Jibal Qutman	77,000 oz Au pa at US\$3,000/oz, 25% stake	46.2
Other Saudi Arabia	100,000 oz AuEq pa at US\$3,000/oz, 25% stake	60.0
Asset value		875.4
Assumed debt		172.4
Net asset value		703.1
Shares outstanding		7,636
Valuation, pence per share		9.2

Figure 7: KEFI valuations

What's not factored in?

Additional mineralisation at Tulu Kapi underground: Management estimates there is potential to triple the underground resource to about 1.0 Moz. This would be expected to be at a similar grade to the existing underground resource which is 5.69 g/t gold. The current underground mine modelling is based on mining 230,000 oz of gold that lies directly beneath the open-pit mine over a period of four years. The current mine plan ignores other zones of mineralisation that would be accessible from the underground mine and which were included in an earlier 2014 mineral resource estimate.

Notably, the underground resource is based on a cut-off grade of 3.5 g/t gold. Gold prices have almost doubled since the PEA was prepared in 2016 (when the gold price averaged US\$1,252/oz). It seems highly likely that in the current gold price environment the cut-off grade could be lowered and additional material brought into the mine plan.

On the basis of the valuations included herein, an increase in production of 50,000 oz pa at Tulu Kapi (40,000 oz pa attributable to KEFI), could boost the valuation by 1.3 pence/share.

Tulu Kapi proximal areas: The area around Tulu Kapi hosts two NNE-trending structures that are similar to, and run parallel to, the Tulu Kapi trend. KEFI has already identified a number of targets and has the stated aim of identifying 300,000 oz to 500,000 oz of gold grading ~1.5 g/t in oxide material that could boost production by an initial 50,000 oz gold pa.

Jibal Qutman potential expansion: So far, Gold and Minerals has explored approximately 7km of a 30km trend. The granting of additional licence areas in 2022, to the north and southeast of, and along strike of, the current project area, and the discovery of cross structures (for example at Asfingia) suggest there is substantial resource upside, and ultimately, the potential for greater production.

Hawiah and Al Godeyer resource expansion: According to USGS, many VMS systems occur in clusters of a dozen or so deposits. As Gold and Minerals explores the wider Hawiah-Al Godeyer-Abu Salal region, other deposits may be discovered, and ultimately, mined.

Additional projects: Gold and Minerals holds a substantial portfolio of exploration licences, some of which have hosted historical production, and all of which are highly prospective.

Blue-sky scenario

In the 4-year valuation, KEFI has attributable gold production of 259,750 oz pa, with 160,000 oz pa of this coming from Tulu Kapi. A blue sky scenario could be based around KEFI achieving another 50,000 oz pa from Tulu Kapi, a further 50,000 oz pa from the surrounding exploration areas (also assumed to be 80% attributable to KEFI), and an additional 100,000 oz pa from the Saudi Arabia portfolio. This would represent an increase in attributable production of 105,000 oz pa to a total of 364,750 oz pa. At US\$3,000/oz of production, this could add US\$315m to the valuation, or 3.3 pence/share. **On this basis, in a blue-sky scenario, KEFI could be valued at 9.2 pence/share.**



Figure 8: African gold companies EV per oz of production, planned or 2024 guidance

Source: Company data, Orior Capital



Figure 9: African gold companies EV per oz of measured and indicated resource

Figure 10: African gold companies, M&I resource grade, g/t gold



Source: Company data, Orior Capital

It's happening

- There has been a raft of M&A transactions in the African gold sector over the past 3-4 years, including four deals and bids at the end of last year
- M&A activity has spread to beyond West Africa; since 2022, there have been deals in Sudan, Namibia and Tanzania
- > Deal based valuations reaffirm the incredible opportunity in KEFI shares

Strong appetite for African assets

Another factor expected to drive valuations is continued appetite for gold assets, both by financial interests and by larger gold companies. Endeavour acquired both Semafo (Burkina Faso) and Teranga Gold (Senegal, Burkina Faso and Ivory Coast) in 2020. A private equity fund, Ibaera Capital, acquired Azumah Resources (Ghana) in 2020. Shandong Gold bought Cardinal Resources (Ghana) in 2021 and Chifeng Jilong bought Golden Star (Ghana) in a deal that was completed in early 2022. Also in 2022, Perseus acquired Orca Gold (Sudan), and Robex Resources (Mali) announced a business combination with privately-held Sycamore Mining (Guinea and Swaziland).

Bids, or deals, for four more companies were announced in 4Q23. These can be broadly divided into acquisitions of (or bids for) existing producers, and acquisitions of DFS stage companies still in development. Shanta Gold, acquired by ETC Holdings, and Tietto Minerals, which is being bid by Zhaojin Mining, are both producers. The other two companies are at the DFS stage; Osino Resources was bid by Dundee Precious Metals before being acquired by Yintai Gold, and Orecorp was bid by Silvercorp before being acquired by Perseus.

Notably, M&A activity has broadened to areas beyond West Africa, which was the focus in 2020 to 2022. Since then, there have been deals in Sudan, Tanzania and Namibia.

The valuations of these transactions and bids vary from US\$849/oz planned production for Orecorp and US\$1,567/oz for Osino, up to US\$1,911/oz for Shanta and US\$3,383/oz for Tietto. Valuations in terms of US\$/oz of reserves vary from US\$76/oz (Orecorp) up to US\$423/oz (Zhaojin's bid for Tietto), and in terms of US\$/oz of resource vary from US\$70/oz up to US\$296/oz.

Buyer	Target	Country	US\$ m	Year
Zhaojin Mining	Tietto (bid rejected)	Côte d'Ivoire	498	2024
Perseus	Orecorp	Tanzania	177	2024
ETC Holdings	Shanta Gold	Tanzania, Kenya	186	2023
Dundee Precious Metals	Osino	Namibia	219	2023
Fortuna Silver	Chesser Resources	Senegal	60	2022
B2Gold Corp	Oklo Resources	Mali	18	2022
Perseus Mining	Orca Gold	Sudan	155	2022
Chifeng Jilong	Golden Star	Ghana	470	2021
Fortuna Silver	Roxgold	Burkina Faso, Côte d'Ivoire	884	2021
Shandong Gold	Cardinal Resources	Ghana	394	2021
Endeavour Mining	Teranga	Senegal, Burkina Faso	2,000	2020
Endeavour Mining	Semafo	Burkina Faso	736	2020

Figure 11: Africa gold sector M&A activity

Source: Company data, Orior Capital









Figure 14: Summary of recent hids and transactions

Target company		Tietto Minerals	Shanta Gold	Osino Resources	Orecorp
Code		TIE.AX	SHG.L	OSI.V	ORR.AX
Buyer/bidder		Zhaojin Mining	ETC Holdings	Yintai Gold	Perseus
Code		1818.HK	Private	000975.SS	PRU.AX
Bid value, equity	US\$ m	498	177	266	177
Deal or bid status		Zhaojin raised its	Deal agreed and	Deal approved	Compulsory
		bid in April 2024	in progress	by shareholders	acquisitior
Timing		Bid is current	Dec 2023	Feb 2024	April 2024
Key project details					
Key project		Abujar	New Kuika	Twin Hills	Nyanzaga
Location		Côte d'Ivoire	Tanzania,	Namibia	Tanzania
Stage		Production	Production	Feasibility Study	DFS
Ownership		88%	100%	100%	84%
Valuation metrics					
EV/NPV		58%		57%	27%
EV/Reserves oz	US\$/oz	423	359	128	7
EV/M&I oz	US\$/oz	296	81	97	7
EV/M&I+I oz	US\$/oz	150	51	89	6
EV/oz planned	US\$/oz	3,383	1,744	1,567	84
Project attributes					
NPV post-tax	US\$ m	877		480	618
Gold price used	US\$/oz	1,900		1,750	1,750
Initial capex per study	US\$ m			365	474
Planned production	oz pa	170,000	103,000	175,000	234,000
Notes		9 year average	2024 guidance	First five years	Average, LoN
Resources and reserv	es				
Reserves	koz	1,360	500	2,150	2,600
Resources, M&I	koz	1,940	2,224	2,840	2,834
Resources, Inf	koz	1,900	1,284	240	45
Resources, total	koz	3,830	3,509	3,080	3,280
Grades					
Reserves	g/t Au	1.15	2.78	1.04	2.02
Resources, M&I	g/t Au	1.20	3.47	1.08	3.64
Resources, Inf	g/t Au	0.80	3.06	1.05	3.4

Note: Estimates include target company net debt. Exchange rates used are spot as of 15 April 2024.

Source: Company data, Orior Capital estimates

One of the primary differences between producing assets and feasibility study stage assets, apart from cashflows, is that feasibility study assets are typically not yet funded into production. After acquiring Osino, Yintai Gold will need to fund Twin Hills into production. Osino's feasibility study estimates this at US\$365m. Similarly, Perseus will be faced with an initial capex requirement that was estimated at US\$474m in Orecorp's 2022 DFS.

This is not expected to be the case with KEFI. Financing for Tulu Kapi is expected to be finalised over the next couple of months. In Saudi Arabia, the Saudi Industrial Development Fund has indicated a willingness to fund up to 75% of costs including sunk exploration and development costs. Government funded, SDIF has a key role in funding projects that help diversify Saudi Arabia away from oil and gas, in line with the Kingdom's Vision 2030 objectives. While KEFI is not yet in production, once it has completed DFS studies on its Saudi Arabian assets, it will arguably be close to being fully funded.

Zhaojin's bid for Tietto

Tietto Minerals brought its Abujar gold mine in Côte d'Ivoire on stream in January 2023, and has been ramping up production since then. Production is expected to average 170,000 oz pa over the nine year mine life at an average all-in sustaining cost (AISC) of US\$982/oz. Tietto owns 88% of Abujar, with the Government of Côte d'Ivoire owning 10% and local partners 2%.

In October 2023, Zhaojin Mining bid A\$0.58/share for the 93% of Tietto it did not already own, valuing Tietto at a market cap of A\$655m. Tietto rejected the bid saying the low valuation reflected the ramp up at Abujar. On 7 March, 2024, Tietto noted that Zhaojin's bid had been open for more than four months, that Zhaojin had not apparently received any acceptances to its offer, that gold production was improving, and that gold prices were now higher than at the time of the bid. On 15 April, 2024, Zhaojin raised its offer to A\$0.68/share, valuing Tietto at A\$768m, or an EV of US\$506m. This represents an EV/oz of planned production of US\$3,383, and an EV/oz of Reserves of US\$423.

Shanta Gold

In December 2023, Shanta Gold agreed an all cash offer from a subsidiary of ETC Holdings (Mauritius) Ltd that values Shanta at £142m, or an EV of US\$180m. ETC Holdings is controlled by ETG Group, one of the founders of which is a Director of Shanta. The bid values Shanta at an estimated US\$1,744/oz of planned production based on the mid-point of 2024 guidance, and at US\$359/oz of Reserves.

Osino Resources

Osino is developing the Twin Hills gold project in Namibia. A June 2023 Feasibility Study highlighted a 13-year open-pit operation producing 175,000 oz gold pa over the first five years (162,000 oz pa over the life of mine) at an AISC of US\$1,011/oz, and after upfront capex costs of US\$365m.

In December 2023, Dundee Precious Metals and Osino announced an agreed deal whereby Dundee would acquire all of Osino's equity for C\$287m in cash and shares. In February, 2024, Chinese gold miner, Yintai Gold said it would acquire Osino for C\$1.90/share, about C\$368m, or an EV of US\$274m. Yintai has a successful track record of acquisitions having acquired the Chinese assets of Canadian-listed Eldorado Gold in 2016. The Yintai acquisition values Osino at an estimated US\$1,567/oz of planned production, and at US\$128/oz of Reserves. Osino said, 29 April, 2024, its shareholders had approved the deal.

Orecorp

Orecorp was developing the 84% owned Nyanzaga gold project in northern Tanzania, in which the Government of Tanzania has a 16% free carried interest. Orecorp's 2022 DFS highlighted a post-tax NPV₅ of US\$618m based on US\$1,750/oz gold, average production of 234,000 oz pa over a 10.7 year mine life, and after initial capex estimated at US\$474m.

Silvercorp launched a cash and shares bid for Orecorp in August 2023, before ultimately, Perseus acquired Orecorp in an all cash offer. Perseus said 19 April, 2024, it had secured a 94.99% stake in Orecorp and had proceeded to a compulsory acquisition of the remaining shares.

The Perseus bid values Orecorp at A\$272m, or an EV of approximately US\$167m. On this basis, the deal values Orecorp at an estimated US\$849/oz of planned production, and at US\$76/oz of Reserves.

Tulu Kapi on the cusp of development

- Tulu Kapi project launch is now targeted for mid-2024; first open-pit production is expected in 2026
- The underground mine is expected to start up in Year 3 of the open-pit; there is potential to triple the underground resource, further boosting project economics
- Management targets resources of 300,000 oz to 500,000 oz gold in satellite pits that could underpin an initial 50,000 oz pa heap leach operation

Tulu Kapi is located in Western Ethiopia in the Oromia Region, some 360km due west of the capital, Addis Ababa. KEFI acquired a 75% stake in the project in 2013, and the remaining 25% in 2014. A DFS was completed in June 2015, and an updated version in June 2017. In 2018, KEFI released a Mine Plan for the open-pit mine that increased plant capacity and accelerated cash flows. That plan now forms the basis of the current 2020 Mine Plan. Ultimately, once all detailed and regulatory approved documentation are closed, KEFI is expected to own an 80% stake in Tulu Kapi.

The estimates herein are based on production of 1.3 Moz gold over an 8-year mine life, assuming a processing rate of 2.4Mtpa and including the integration of some 200,000 oz gold production from the underground mine. Production is expected to reach 173,100 oz in the first year of production and to average 170,700 oz pa in the first seven years of the project.

The underground mine is expected to commence operations in Year 3 of the open-pit mine. The project has simple metallurgy, will employ standard equipment, and is expected to ramp up quickly as there is negligible overburden. Tulu Kapi is expected to be the first modern mine to be built in Ethiopia for more than 30 years.

Highly cash generative

At US\$1,965/oz gold, a current consensus forecast, Tulu Kapi is expected to generate average annual operating cash flow of US\$174m in the first seven years. Average life-of-project all-in sustaining costs are estimated at US\$992/oz, suggesting a margin over AISC of US\$973/oz.

Figure 15: Gold production, years



Figure 16: Operating cashflows, years



Figure 17: Tulu Kapi key operating parameters

Year		1	2	3	4	5	6	7
Key operating metrics								
Ore Mined	Mt	3.9	3.0	2.1	3.0	2.6	2.2	1.1
Waste Mined	Mt	18.3	19.2	20.3	19.4	18.3	11.4	5.0
Total Material Mined	Mt	22.2	22.2	22.4	22.4	21.0	13.6	6.1
Ore Grade	g/t	1.7	2.0	2.2	2.4	2.2	2.3	3.2
Contained Gold	koz	217.7	193.4	151.1	228.5	189.9	160.7	113.6
Ore Processed	Mt	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Head Grade	g/t	2.6	2.4	2.2	2.6	2.3	2.2	2.4
Contained Gold	koz	199.1	183.1	169.8	201.3	179.3	172.6	182.7
Recoveries	%	87%	94%	94%	94%	94%	94%	94%
Gold Recovered	koz	173.1	171.8	159.3	189.0	168.3	161.9	171.3
Offsite Costs	US\$ m	2	2	1	2	1	1	2
Mining Costs	US\$ m	94	101	111	117	110	75	43
Processing Costs	US\$ m	30	32	33	34	36	36	37
General and admin	US\$ m	11	11	11	10	10	9	9
Operating Costs	US\$ m	137	147	157	162	157	122	91
Royalties	US\$ m	15	27	20	27	22	23	21
Sustaining Capital	US\$ m	13	14	14	8	4	3	3
Closure	US\$ m	2	2	2	2	2	2	2
All in Sustaining Costs	US\$ m	167	190	193	199	186	149	117
All in Sustaining Costs	US\$/oz	966	1,108	1,213	1,055	1,103	921	680
Financials								
Revenue	US\$ m	340	338	313	371	331	318	337
Operating costs	US\$ m	152	174	178	189	179	145	112
Operating cashflow	US\$ m	188	164	135	182	151	174	225

Source: KEFI

Underground

In the 2016 PEA, modelling of mineable stopes resulted in a 76% conversion rate and a Reserve of 1.3Mt at 5.17 g/t. Management hopes to further enhance the underground resource with additional drilling and to complete a PFS during the construction of the open pit project. The underground decline would be started around the time the open pit starts up, with further resource drilling conducted from underground. Ultimately, the plan would be to supplement the open pit operation with some higher-grade underground material to underwrite a minimum 12-year mine life, at higher-grade and better economics than the current planned open pit.

Assuming the open pit starts up in 1H26, first production from the underground mine would be targeted for late-2028 or early-2029.

Management believes there is potential to triple the underground resource to ~1.0 Moz at a similar grade to the existing resource. Mineralisation increases in grade and thickness with depth, and it remains open both at depth, and an estimated 600-800m along strike to the north. Drill hole **TKBH_293**, the northern most hole drilled into the underground resource intercepted 90m at 2.8 g/t gold. Drill hole **TKBH_125** intersected mineralisation 140m down plunge, and is interpreted to be east of the main underground shoot.

The 2016 PEA for the underground mine was based on the June 2014 JORC-compliant reported indicated and inferred mineral resource of 1.65Mt at 6.26 g/t gold for 330,000 oz gold, at a cut-off grade of 3.5 g/t. The PEA was based on a gold price of US\$1,250/oz gold. Given the high current gold price there is probably scope to lower this cut-off grade allowing additional material to be brought into the mine plan. The appropriate cut-off grade will be considered during underground mine planning once the open pit operation is underway.



Figure 18: Tulu Kapi existing underground resource below the open pit at 1,400mL

Source: KEFI, Orior Capital

Drilling and assays are likely to cost ~US\$1m based on six drill holes, each 700m deep, and at a cost of US\$200/m including assays. **Just considering the grade, one would think the underground project would be highly profitable,** especially given current gold prices, though KEFI will probably aim to expand the underground resource to about 500,000 oz or more to justify development.





Resources and reserves

In 2015, KEFI released an updated resource that only focused on zones of mineralisation directly below the open pit; other drilled zones of mineralisation accessible from underground which were included in the 2014 reported resource were ignored.

The Tulu Kapi project hosts a current resource estimate of 1.72 Moz at an average grade of 2.65 g/t gold. The mineral resource has been split above and below the 1,400m RL to reflect the portions of the resource that may be mined in the open pit operation and using underground mining. Of the total resource, some 1.50 Moz lies above 1,400m RL and is included in the mine plan for the open pit operation. This was based on a cut-off grade of 0.45 g/t gold. Resources below the 1,400m RL are based on a cut-off grade of 2.5 g/t gold.

The project has current mineral reserves of 1.06 Moz gold at an average grade of 3.25 g/t. This reserve estimate was based on a gold price of US\$1,098/oz, suggesting there maybe scope to bring additional material into the mine plan.

Figure 20: Tulu Kapi Resources

Category	Tonnes Million	Gold Grade g/t	Contained Gold Moz
Above 1,400m RL	19.0	2.56	1.50
Indicated	17.7	2.49	1.42
Inferred	1.3	2.05	0.08
Below 1,400m RL	1.2	5.69	0.22
Indicated	1.1	5.63	0.20
Inferred	0.1	6.25	0.02
Overall	20.2	2.65	1.72
Indicated	18.8	2.67	1.62
Inferred	1.4	2.40	0.10

Source: KEFI

Figure 21: Tulu Kapi Reserves

Category	Tonnes Million	Gold Grade g/t	Contained Gold Moz
Probable, cut-off 0.9 g/t	12.0	2.52	0.98
Probable, cut-off 0.5-0.9 g/t	3.3	0.73	0.08
Total probable reserves	15.3	3.25	1.06

Source: KEFI

Exploration areas highly prospective

In addition to the tenements at Tulu Kapi, KEFI has applied for three exploration licences that cover some 1,120 km² and which lie immediately west and north of the Tulu Kapi mining licence.

Management's stated target is to identify 300,000 oz to 500,000 oz of gold grading ~1.5 g/t in oxide material in a series of shallow (40m) open pits along the Komto-Guji Belt, immediately west of the Tulu Kapi trend. This material could be processed in two ways. Being within trucking distance of the Tulu Kapi plant, it could provide additional ore feed to the plant. The Tulu Kapi plant has potential for higher throughput rates for softer oxide ores. It could also be developed as standalone heap leach operations. Preliminary metallurgical work using cyanide bottle roll tests returned 94% gold recovery on the trench samples at Komto II. This could enable production of an initial 50,000 oz pa that would benefit from low stripping ratios, low costs, and high gold recoveries.

Guji Trend

The Guji shear zone lies 3-5 km west of the Tulu Kapi trend. It includes Guji, to the northwest of Tulu Kapi, and has a mapped strike length of more than 9km from Komto in the south to Kobera in the north. It is open along strike in both directions. In 2014-2015, drilling and trenching by KEFI in the Guji area returned a number of compelling results including 44m at 1.7 g/t gold (drill hole **GRC_067**), 6m at 3.98 g/t gold (**GRC_070**) and 19.3m at 4.4 g/t gold (trench **GTR_01**).

At the Komto 1 and Komto 2 prospects, mineralisation is hosted in a ferruginous stockwork in metasandstone. Management noted in 2015 that the mineralisation style has the potential to host a bulk tonnage open cut resource. One drill hole, **UNBH_16**, drilled at the Komto 1 prospect in the 1970s, returned 10.5m at 1.5 g/t gold. There are also encouraging trenching results; Trench **K1Tr_03** returned 7m at 7.27 g/t gold. Trench **K2Tr_12** returned 13m at 1.07 g/t gold. Trench **K2Tr_13** returned 6m at 1.24 g/t gold and 5m at 1.07 g/t gold. So far, only limited drilling has tested this trend.

Dina Trend

The Dina Trend is a NNE-SSW trending shear zone lying some 10km to the west of the Guji Trend. It hosts a number of historical workings. Geochemical surveys to date have shown mineralisation over some 15km. Diamond drilling at the central Dina prospect by Nyoto returned a best result of 7.1m at 30.3 g/t gold from a depth of 69.6m. **Dina has the potential to host a very high-grade deposit.**

The Soyoma prospect lies north along trend from Dina, about 15km northwest of Tulu Kapi. Gold mineralisation is hosted in quartz veins. Historical trenching work returned good results including 14.2m at 8.2 g/t gold. In 2015, gravel excavations revealed two historical trenches and a series of flat lying stacked quartz veins. Channel sampling of these veins returned best results of 3m at 4.2 g/t gold, 2m at 2.75 g/t gold and 1m at 2.65 g/t gold. Altogether the vein zone and historic workings have been mapped over a 2km strike length. **Soyoma is another outstanding geological prospect.**

So far, **KEFI has identified Komto I and II, Guji and Soyoma as the best targets for bulk tonnage open-pit operations.** These targets are all within easy trucking distance of the Tulu Kapi processing plant.





Source: KEFI

Jibal Qutman: substantial growth potential

- The Jibal Qutman preferred development scenario, taking into account 13,000m of new drilling, metallurgical and other studies, is expected to be selected in the coming months; the DFS will follow
- Discovery at Asfingia provides proof-of-concept that observed cross-fault structures are prospective for high-grade gold mineralisation
- These structures run along the entire 30km trend at Jibal Qutman, and will be tested in upcoming drilling

Jibal Qutman is located in the southern portion of the north-south trending Nabitah-Tathlith Fault Zone, a shield wide, 300km long structure, that hosts more than 40 ancient gold mines and known occurrences, including the major Ad Duwayhi and Mansourah-Massarah gold mines. The project is situated in a remote and uninhabited area some 110km east-northeast of Bisha City. Apart from ancient mines and artisanal workings, the area has not been previously exploited.

The United States Geological Survey (USGS) undertook the first field-reconnaissance of the area on behalf of the then Directorate General of Mineral Resources (DGMR) in 1979. Subsequent mapping by Gold and Minerals defined additional unmapped workings and parallel gold-bearing veins, and extended the previously known strike of quartz vein sets from 400m to 2.9km. In May 2015, Gold and Minerals published a mineral resource of 28.4Mt at a grade of 0.8 g/t gold, for a gold resource of 733,045 oz gold that was based on 430 RC holes and 77 diamond holes.

In September and October 2022, KEFI announced the exploration licence at Jibal Qutman had been renewed and two additional and contiguous licences situated along strike had been awarded.

In January 2024, KEFI announced the discovery of the Asfingia satellite deposit. Asfingia is situated approximately 1km west-northwest of the 4K planned open-pit and close to the existing resource. It was discovered when Gold and Minerals was testing a cross-fault off the main trend of mineralisation identified to date. The discovery suggests further potential for higher grade mineralisation in similar cross faults. Gold and Minerals now plans to test the entire 30km along the three contiguous licence areas. The existing resource sits in the central 7km of the licence area, suggesting potential for substantial upside in resources.

In September 2022, KEFI expected a DFS for Jibal Qutman would be focused on an initial 2.0Mtpa carbon-in-leach (CIL) operation targeting production of 500,000 oz gold over a ten year period. Field programs including confirmatory drilling, environmental baseline studies, and geotechnical and metallurgical drilling, commenced in October 2022. Management was targeting the completion of a DFS by the end of 2023, prior to making a Mining Licence application. Gold and Minerals has already commenced discussions with Saudi Investment Development Fund (SIDF) around project funding, to be finalised once the mining licence is issued.

With the expanded licence areas and recent drilling success Gold and Minerals now targets a much larger resource. Consequently, alternative development scenarios will need to be considered as well as preferred solutions for inputs like water and power. Gold and Minerals plans to select preferred development scenarios over the next few months. Allowing 30 months for completing the DFS,

financing and construction, it is reasonable to assume production starts up in 2028.

Asfingia discovery

The main structure at Jibal Qutman trends northwest. In 2023, regional level observations revealed some cross structures, and Gold and Minerals geologists observed artisanal activity when at site, with these workings down to just 10m or so. A follow-up drone survey confirmed the cross structures and this was followed-up with rock chip sampling and trenching to provide proof-of-concept. Initial drilling has intercepted mineralisation down to 86m, well beyond the depth of artisanal workings in the area. This raises hopes for further mineralisation at depth. The cross structures are prevalent across the whole of the 30km trend at Jibal Qutman, and these will be tested in upcoming drilling. Key highlights of the drilling at Asfingia include:

JQD_232: 13.9m (9.2m estimated true width) at 7.9 g/t Au from 53.6m inc. 1.2m at 66.6 g/t Au

JQD_265: 25.5m (15.5m estimated true width) at 1.9 g/t Au from 86.0m inc. 7.4m at 5.2 g/t Au





Orior Capital

Gold and Minerals has already identified a 350m strike length down to a depth of 75m; the deposit remains open along strike and down-dip. Further drilling is being undertaken to work up a maiden Asfingia resource that can complement the other deposits at Jibal Qutman.

More broadly, the discovery at Asfingia changes the understanding of Jibal Qutman. Whereas previous work had focused on an 7km section in the original licence area, Gold and Minerals will now test the full 30km mineralised strike. In January 2024, KEFI said that scout drilling was underway across multiple targets including shallow alluvial mining areas. Further targets are expected to be identified. Given the similar structures across the three licence areas, Jibal Qutman remains highly prospective with an excellent chance for further resource expansion.

Jibal Qutman North and Southeast exploration areas

Gold and Minerals was awarded, September 2022, exploration licences at Jibal Qutman North and Jibal Qutman Southeast. The licences cover the north and south strike extensions of the Jibal Qutman gold system. Also, the original Jibal Qutman licence in what is now the central portion of the area was renewed in October 2022. Taken together, the three contiguous licences over an area of 270 km² and cover a significant part of the Nabitah-Tathlith gold belt.



Figure 24: Jibal Qutman exploration licence area

Source: KEFI

Artisanal mine workings, both ancient and more modern, are prevalent within the new licence areas suggesting a good opportunity to expand the existing Jibal Qutman resource. Management believes the quantity of dump material and the extent of more recent artisanal workings are encouraging signs of a significant, sub-cropping continuation of the gold system. Work by Gold and Minerals at the Jibal Qutman Southeast licence area in 2014 returned grades of up to 66.5 g/t gold in grab samples, and an average grade of 10.5 g/t across all 13 samples taken. Grab samples from the Jibal Qutman North licence area have returned grades of up to 4.1 g/t gold.

Exploration work on the central licence area conducted prior to 2016 was focused on the main trend, which presents as quartz veins hosted in deformed volcanics and sediments. Towards the end of this phase of exploration, a second mineralised structure was identified that is hosted within ultramafics on the eastern part of the licence area. Regional mapping has identified this structure in the adjoining Jibal Qutman North and Southeast tenement areas. The structure is yet to be fully explored.

Geology and mineralisation

Jibal Qutman is a mesothermal or orogenic-style quartz-vein-hosted gold deposit comprising a weathered oxide cap and lower un-weathered ore body that is located in the central southern region of the Arabian-Nubian Shield. The project currently comprises separate areas of mineralisation and is open along strike, down dip and at locations peripheral to the known mineralization.

So far, KEFI has discovered seven mineralised gold zones within a 7km long (north-south) by 2km wide (east to west) area. The main zone of the orebody is a 900m long vein system, with a single high-angle vein up to 4m thick that splits into multiple veins along strike. The ore consists of pyrite and minor tetrahedrite, galena and sphalerite with coarse gold.

The mineralised zones are interpreted as quartz vein and shear-zone related gold mineralization, hosted by folded Upper Proterozoic volcanic and sedimentary units. The shear zones occur along the Nabitah-Tathlith fault zone, and range in thickness from tens to hundreds of metres. According to KEFI, gold mineralisation is associated with the shears in three predominant styles:

- Quartz veins and surrounding stockwork within a carbonatized and albitized alteration envelope, with gold accompanied by disseminated pyrite and minor copper sulphides and oxides
- Sub-horizontal unsheared carbonatized and albitized volcanic bodies, with gold accompanied by large quantities of pyrite and very minor amounts of other sulphides
- A strongly sheared and folded carbonaceous meta-sedimentary unit, strongly sericitised and containing a significant quantity of pyrite. This mineralisation style accounts for only a small part of the resource



Mineralization extends some 7km along strike, in several discrete zones which outcrop at surface. The width of the near surface mineralization is 500m at the widest zone, and comprises a closely stacked series of discreet mineralized zones varying in width from 1m to 15m and extending to a depth of \sim 150m.

	Category	Tonnes	Gold	Contained		
		millions	g/t	koz		
Oxide	Indicated	8.3	0.86	229		
	Inferred	2.8	0.64	58		
	Sub-total	11.1	0.80	287		
Sulphide	Indicated	9.7	0.86	269		
	Inferred	7.6	0.72	176		
	Sub-total	17.3	0.80	446		
Oxide and sulphide	Indicated	18.0	0.86	498		
	Inferred	10.4	0.70	235		
	Total	28.4	0.80	733		

Figure 26: Jibal Qutman mineral resource

Source: KEFI

Hawiah: a regional VMS project in the making

- Hawiah is already a Top 100 VMS deposit globally and remains open at depth; recent drilling has extended the Crossroads Extension by 270m down plunge
- Recently announced discovery at Abu Salal suggests Hawiah is a regional scale project in the making with potentially multiple satellite deposits
- The Wadi Bidah Mineral District is probably the only VMS belt in the world that outcrops as much, remains as underexplored, and is as highly prospective

The Hawiah, Al Godeyer and Abu Salal licence areas are located in the Wadi Bidah Mineral District in the southwestern part of the Arabian shield in Saudi Arabia. The district comprises a 120km long belt that hosts more than 20 known VMS deposits and historical workings. The project is owned by KEFI's 25% held joint venture company, Gold and Minerals.

The Hawiah deposit forms a prominent north-south trending ridgeline that is exposed over 4,500m with a thickness varying from 1m to 20m. The ridge is interpreted to be the modern-day expression of the original VMS palaeo-horizon. The deposit hosts gossanous ex-massive sulphides, chert breccias, banded ironstones and intermediate volcanic breccias. Supergene alteration has resulted from groundwater interactions. The deposit comprises three main alteration zones; an oxide zone that typically shows supergene gold enrichment; a transition zone with copper enrichment; and a fresh mineralised zone that appears to be a predominantly pyritic stratiform massive sulphide body.

The Al Godeyer exploration licence areas, located immediately west of Hawiah, exhibit outcropping gossans over a strike length of 2km. These are situated approximately 12km southwest of, and are considered analogous to, those at Hawiah. The Al Godeyer gossans were the first satellite deposits around Hawiah to be explored by Gold and Minerals.

Together, the current resources at Hawiah (January 2023) and Al Godeyer (April 2023) comprise 30.4Mt at a grade of 1.7% copper-equivalent (CuEq) for 510,000 tonnes CuEq, or a grade of 2.5 g/t gold equivalent (AuEq) for 2.5Moz AuEq. **Hawiah is one of the Top 100 VMS deposits globally.**

In January 2023, Gold and Minerals was awarded three further exploration licences, located to the south of Hawiah at Abu Salal and Umm al Khabath. In February 2024, KEFI announced a discovery at Abu Salal, the third in the Hawiah copper-gold district.

KEFI released a Pre-Feasibility Study for Hawiah in June 2023. This was based on existing resources, and demonstrated a post-tax NPV₅ of US\$301m. It seems likely that the substantial amount of recent drilling and the discovery at Abu Salal will ultimately result in an expanded resource, and a DFS based on a larger operation.

Current drill program

Over the past few months, Gold and Minerals has substantially completed a 65,000m drilling program aimed at developing a maiden Ore Reserve, and expanding the amount of material that can be mined from open-pits. Some 52,000m of drilling had been completed by the end of March. Drilling continues with three diamond drill rigs onsite.

Gold and Minerals has also recently commenced a second phase of drilling (4,500m) at Al Godeyer. KEFI said, 10 May 2024, **these two programs are on track to upgrade at least 90% of the 30.4Mt combined resources of Hawiah and Al Godeyer to the Indicated category**, which will form the basis for the maiden Ore Reserves expected later this year.

The first stage of the Hawiah drill program was designed to further test the depth of the Crossroads Extension, which is at the northern end of the deposit. This had been highly successful with drilling extending the vertical depth of the known mineralisation to 740m, increasing the down-plunge extent of Crossroads Extension by 270m. **This should lead to an increase in resources at Hawiah.**

Key intercepts at Crossroads Extension include:

HWD_210: 7.2m (5.6m estimated true width) at 0.7% Cu, 0.6% Zn, 0.7 g/t Au and 10.0 g/t Ag from 822.1m downhole

HWD_222: 8.6m (7.5m estimated true width) at 0.8% Cu, 0.4% Zn, 0.5 g/t Au and 8.1 g/t Ag from 970.2m downhole

HWD_246: 9.3m (8.4m estimated true width) at 0.7% Cu, 1.0% Zn, 0.6 g/t Au and 10.2 g/t Ag from 872.7m downhole

Key intersections from Camp Lode, at the southern end of the deposit include:

HWD_268: 33.1m (18.9m estimated true width) at 1.3% Cu, 0.1% Zn, 0.4 g/t Au and 4.8 g/t Ag from 353.4m downhole

HWD_337: 15.8m (10.7m estimated true width) at 1.8% Cu, 0.2% Zn, 0.3 g/t Au and 2.9 g/t Ag from 483.9m downhole

HWD_340: 22.4m (13.4m estimated true width) at 1.0% Cu, 1.5% Zn, 0.6 g/t Au and 9.6 g/t Ag from 572.4m downhole

KEFI is expected to release an enlarged resource based on the current drilling program in late-2024, after which the company will commence the DFS. Metallurgical studies, aimed at assessing and optimising the various processing options, are ongoing.

The DFS is expected to incorporate additional near-surface material from AI Godeyer where KEFI targets a 2Mt Indicated Resource, up from a 1.35Mt Inferred Resource currently.

2023 resource

In January 2023, KEFI announced its second upgrade to the resource at Hawiah. The resource currently stands at 29.0Mt grading 0.89% copper, 0.94% zinc, 0.67 g/t gold and 10.1 g/t silver. In terms of contained metal, the resource comprises 258,000 tonnes of copper, 272,000 tonnes of zinc, 620,000 oz gold, and 9.4 Moz silver. A resource update, incorporating the substantial drill program that is underway is expected in late-2024.

Mining	Material	Tonnes Mt	Grade				Metal content			
Туре			Cu	Zn	Au	Ag	Cu	Zn	Au	Ag
			%	%	g/t	g/t	kt	kt	koz	koz
Open-pit	Total	9.2	0.88	0.7	0.84	9.9	81	65	249	2,950
	Oxide	1.2	-	-	2.1	7.6	0	0	80	286
	Transition	2.2	1.29	0.76	0.72	11.7	28	17	51	828
	Fresh	5.9	0.9	0.82	0.62	9.7	53	48	118	1,836
Underground	Total	3.2	0.82	1.07	0.59	9.5	26	34	60	969
	Fresh	3.2	0.82	1.07	0.59	9.5	26	34	60	969
Open-pit	Total	1.8	0.99	1.02	0.67	12.4	18	19	40	735
	Oxide	0.01	-	-	0.96	8.4	0	0	0.2	1.8
	Transition	0.4	1.06	0.62	0.77	14.9	5	3	11	204
	Fresh	1.4	0.97	1.14	0.64	11.7	14	16	29	529
Underground	Total	14.7	0.9	1.05	0.58	10.1	132	155	272	4,754
	Fresh	14.7	0.9	1.05	0.58	10.1	132	155	272	4,754
Total		29.0	0.89	0.94	0.67	10.1	258	272	620	9,408
Open-pit		11.1	0.9	0.75	0.81	10.3	100	83	288	3,685
Underground		17.9	0.88	1.06	0.58	10	158	189	332	5,723
	Type Open-pit Underground Open-pit Underground Underground	Type Open-pit Copen-pit Code Transition Fresh Copen-pit Copen-pit Code Total Code Transition Fresh Code Transition Fresh Code Total Fresh Code Total Code	TypeMtOpen-pitTotal9.2Oxide1.21.2Transition2.2Fresh5.9UndergroundTotal3.2Open-pitTotal1.8Oxide0.011.4Transition0.41.4Fresh1.414.7IundergroundTotal14.7Total1214.7Total29.00pen-pitOpen-pit11.1	Type Mt Cu Open-pit Total 9.2 0.88 Oxide 1.2 - Oxide 1.2 1.29 Transition 2.2 1.29 Fresh 5.9 0.9 Underground Total 3.2 0.82 Open-pit Total 1.8 0.99 Oxide 0.01 - - Transition 0.4 1.06 - Fresh 1.4 0.97 - Underground Total 14.7 0.9 Fresh 14.7 0.9 - Open-pit Total 14.7 0.9	Type Mt Cu Zn Open-pit Total 9.2 0.88 0.7 Oxide 1.2 - - Oxide 1.2 1.29 0.76 Transition 2.2 1.29 0.76 Fresh 5.9 0.9 0.82 Underground Total 3.2 0.82 1.07 Fresh 3.2 0.82 1.07 Open-pit Total 3.2 0.82 1.07 Open-pit Total 1.8 0.99 1.02 Oxide 0.01 - - - Oxide 0.01 - - - Oxide 0.01 - - - Oxide 0.01 1.06 0.62 - Fresh 1.4 0.97 1.14 Underground Total 14.7 0.9 1.05 Fresh 14.7 0.9 0.94 0.94	Type Mt Cu Zn Au 0pen-pit Total 9.2 0.88 0.7 0.84 Oxide 1.2 2.1 Transition 2.2 1.29 0.76 0.72 Transition 2.2 1.29 0.76 0.72 Transition 2.2 1.29 0.76 0.72 Fresh 5.9 0.9 0.82 0.62 Underground Total 3.2 0.82 1.07 0.59 Open-pit Total 3.2 0.82 1.07 0.59 Open-pit Total 1.8 0.99 1.02 0.67 Oxide 0.01 0.96 0.77 Oxide 0.01 - - 0.96 Transition 0.4 1.06 0.62 0.77 Fresh 1.4 0.97 1.14 0.64 Underground Total 14.7 0.9 1.05 0.58	Type Mt Cu Zn Au Ag Open-pit Total 9.2 0.88 0.7 0.84 9.9 Oxide 1.2 2.1 7.6 Transition 2.2 1.29 0.76 0.72 11.7 Fresh 5.9 0.9 0.82 0.62 9.7 Underground Total 3.2 0.82 1.07 0.59 9.5 Open-pit Total 3.2 0.82 1.07 0.59 9.5 Underground Total 3.2 0.82 1.07 0.59 9.5 Open-pit Total 1.8 0.99 1.02 0.67 12.4 Oxide 0.01 - - 0.66 8.4 Transition 0.4 1.06 0.62 0.77 14.9 Fresh 1.4 0.97 1.14 0.64 11.7 Underground Total 14.7 0.9 0.58 <	Type Mt Cu Zn Au Ag Cu 0 % % g/t kt Open-pit Total 9.2 0.88 0.7 0.84 9.9 81 Oxide 1.2 2.1 7.6 0 Transition 2.2 1.29 0.76 0.72 11.7 28 Fresh 5.9 0.9 0.82 0.62 9.7 53 Underground Total 3.2 0.82 1.07 0.59 9.5 26 Fresh 3.2 0.82 1.07 0.59 9.5 26 Open-pit Total 3.2 0.82 1.07 0.59 9.5 26 Oxide 0.01 0.667 12.4 18 Oxide 0.01 0.96 8.4 0 Transition 0.4 1.06 0.67 14.9 5 Fresh 1.4 0.9<	Type Mt Cu Zn Au Ag Cu Zn 0 % % g/t g/t kt kt Open-pit Total 9.2 0.88 0.7 0.84 9.9 81 65 Oxide 1.2 - - 2.1 7.6 0 0 Transition 2.2 1.29 0.76 0.72 11.7 28 17 Fresh 5.9 0.9 0.82 0.62 9.7 53 48 Underground Total 3.2 0.82 1.07 0.59 9.5 26 34 Open-pit Total 3.2 0.82 1.07 0.59 9.5 26 34 Open-pit Total 1.8 0.99 1.02 0.67 14.9 0.9 34 Open-pit Total 0.4 1.06 0.62 0.77 14.9 5 3 Inderground Total<	Type Mt Cu Zn Au Ag Cu Zn Au 0 % <t< td=""></t<>

Figure 27: Hawiah Resource Estimate

Source: KEFI

Total Indicated and Inferred material reporting to the Open-Pit Scenario is currently 11.1Mt. This provides confidence in the potential for an initial lower capex cost open-pit operation.

The company has defined three copper-zinc-gold-silver massive sulphide lodes:

Camp Lode in the south is 1.2km long and has an average true width of 7m. The deepest massive sulphide intersection at Camp Lode reported to date was at a vertical depth of 590m and a true width of 4.4m. The widest intersection of 20m occurs at a depth of about 90m.

Crossroads Lode to the north is 1.1km in length and has a true width of 5m. It has only been drilled to ~170m depth. Drill hole HWD_018 returned 8.0m of 3.77% CuEq from 73m. Drill hole HWD_022 intersected 7.0m of 4.3% CuEq from 23m.

Crossroads Extension Lode to the farthest north is 700m long at surface. It has a total plunging mineralised strike length of 1.3km from surface and an average true width of 4.2m. The widest intersection to date demonstrated a true width of 13m. The Crossroads Extension Lode exhibits lower copper grades, though higher gold and zinc grades, than at Camp Lode and Crossroads Lode. Crossroads Extension has been explored to a maximum (reported) vertical depth of 740m. **Recent drilling has extended the Crossroads Extension by 270m down plunge.**





Source: KEFI





Source: KEFI

2023 PFS

In June 2023, KEFI announced a Pre-Feasibility Study of the Hawiah open-pit, and associated studies on the underground mine. The project demonstrated a post-tax NPV₈ of US\$301m, and an IRR of 75%. This was based on the December 2021 Mineral Resources Estimate, which formed the basis for the mine planning, and scoping-level work for the underground mine.

The project was based on mining 26.5Mt over a ten year mine life, initially at 2Mtpa, and building to 3Mtpa, and producing a 25% copper concentrate, a 50% zinc concentrate, and gold doré. The project boasted copper equivalent production of 290,000 tonnes and gold equivalent production of 1.36Moz.

The PFS was based on metals prices of US\$8,554/t copper, US\$2,646/t zinc, US\$1,989/oz gold and US\$25/oz silver. The project was expected to generate total EBITDA of US\$1.2bn. Initial modelling was based on pre-production capital expenditure of US\$295m. Assuming this would be 75% financed with borrowings from Saudi Arabia, KEFI's 25% portion of the equity would amount to around £18m.

World-class deposit in the making

The US Geological Society (USGS) 2009 paper, Volcanogenic Massive Sulfide Deposits of the World – Database and Grade and Tonnage Models, contains data on 868 VMS deposits around the world. Many of these deposits are relatively small. The average size is 12.0Mt, but the median is just 2.1Mt. Of the 868 deposits in the database, 668 (77%) are smaller than 10Mt, and 742 (85%) are smaller than 20Mt. There are only 22 deposits larger than 100Mt. **Hawiah currently ranks as the 87th largest deposit.**







Figure 31: VMS deposit size versus CuEq grade at current metals prices

Mosier, D.L., Berger, V.I., and Singer, D.A., 2009, Volcanogenic massive sulfide deposits of the world; database and grade and tonnage models: U.S. Geological Survey Open-File Report 2009-1034 [https://pubs.usgs.gov/of/2009/1034/].
Al Godeyer

The Al Godeyer area contains both historically recognised and newly identified outcropping gossans over a strike length of 2km, that are hosted in a felsic-intermediate volcanic package, consistent with a back-arc paleo-environmental setting. Mineralisation at Al Godeyer appears consistent with that at Hawiah, with similar gold values in the core of the gossan and copper mineralisation as malachite $(Cu_2CO_3(OH)_2)$ on the flanks that is believed to be related to ground water interactions with, and remobilisation of, the underlying ore body.

Mapping and trenching by the French Government Geological Department, Bureau de Recherches Géologiques et Minières (BRGM), in the 1980's identified NW-SE striking gossans over some 800m, with widths of up to 6m. Trench mapping and grab sampling by Gold and Minerals, operating under a Reconnaissance Licence, returned gold grades of up to 7.2 g/t and copper grades of up to 1.8% within the gossan, and extended the gossanous strike length to more than 2km.



Figure 32: Location map of Hawiah, AI Godeyer and AI Godeyer East ELs, and mapped gossan horizon

Source: KEFI



Figure 33: AI Godeyer long section, open pit shell and 2023 Mineral Resource classifications

Source: KEFI

Management's initial target was to identify additional oxide material that could be included in the early years of a combined Hawiah-Al Godeyer open-pit mine plan, thereby boosting cash flows in the early years. In 2023, KEFI announced a maiden Mineral Resources Estimate at Al Godeyer of 1.35Mt at 0.6% copper, 0.54% zinc, 1.4 g/t gold, and 6.6 g/t silver. A second phase of drilling, comprising 4,500m, is underway, with the aim of achieving a 2Mt Indicated Resource.

Abu Salal

The Abu Salal South exploration licence area was awarded in August 2022, and the Abu Salal North licence area in January 2023. The licences are located 50km south of Hawiah in the central portion of the Wadi Bidah Mineral Belt. An exploration licence was awarded at Umm Al Khabath in January 2023.

At Abu Salal South, exploration work focused on a gossan horizon that Gold and Minerals has identified as being akin to the Hawiah style of VMS deposit. The area was subjected to limited work by BRGM in the late-1980s.

Initial mapping work conducted under the previous reconnaissance licence established a number of gossan areas that outcrop along a currently discontinuous strike length of about 2km. Gold mineralisation has been confirmed along strike with grades in the gossan of up to 4.0 g/t. Copper carbonates have been noted along the flanks, suggesting copper mineralisation at depth. Channel sampling at the widest gossan, located towards the southern end of the current horizon, returned an interval of 38m at 0.75 g/t gold.

Gold and Minerals is now focused on mapping the extent of the horizon using mapping, sampling and self-potential surveying, which has proven highly effective at Hawiah and Al Godeyer.

The Abu Salal North licence area is located immediately north of Abu Salal South, and hosts a continuation of the same mineralised VMS system. According to management, mineralisation at surface presents as an oxidized Au-Ag-Cu-Zn bearing VMS horizon that is comparable to that at Hawiah. The gossan represents an 850m strike extension of the Abu Salal South prospect. The horizon continues beneath a more recent flood-basalt 'Harat' related to Red Sea rifting.

In February 2024, KEFI announced a discovery at Abu Salal, the third discovery in the Hawiah copper-gold district. Gold and Mineral's first pass 18-hole scout drilling, the first ever drilling at Abu Salal, intercepted massive and semi-massive sulphides containing copper, gold, zinc, and silver in multiple horizons across a strike length of 2,600m with true widths of up to 11m. The north-south trending gossan horizon remains open along strike, at depth, and down plunge.

Notably, KEFI reports that assays from Abu Salal have returned multiple high-grade intervals that are comparable to those at Hawiah. Management's initial interpretation is that the mineralisation represents the fringe environment of a VMS system with alteration minerals that are typically associated with the footwall/hanging wall environment of these types of deposits not observed. The observed sulphides are typically fine grained pyrite with lesser chalcopyrite and sphalerite.

Key intercepts include:

ASD_004: 11.2m at 0.94% Cu, 1.03% Zn, 0.33 g/t Au and 14.96 g/t Ag from 27.9m

ASD_008: 7.0m at 0.91% Cu, 0.4% Zn, and 4.0 g/t Ag from 36.0m

ASD_009: 7.1m at 0.6% Cu, 1.0% Zn, 0.2 g/t Au and 10.9 g/t Ag from 72.0m

Drilling to date has only tested limited portions of the overall strike length, and only to depths of 80m. **Further drilling, aimed at testing geological continuity, and the deposit at depth, is planned for 2024.**

Figure 34: Long section of the Abu Salal deposit displaying mineralised intercepts downhole and on trenches (red cylinders) with highlight assay results



Source: KEFI

Figure 35: Geological map of Abu Salal showing diamond drill hole collars and trench lines to date



Source: KEFI

Umm Al Khabath

Umm Al Khabath is located some 50km south of Abu Salal North and about 100km south of Hawiah. The area hosts the 820m by 22m sub-vertically dipping ferruginous chert horizon of Jabal Isan, which historically was documented to host mineralisation within quartz and haematitic gossan of up to 8.8 g/t gold. The limited exploration conducted to date demonstrates characteristics associated with a distal mafic VMS facies.





Source: KEFI

Huge exploration portfolio

- Gold and Minerals has been granted 14 new licences in the past two years after Saudi Arabia's regulatory overhaul and desire to diversify the economy
- This portfolio, already mapped or sampled by Gold and Minerals or by groups such as BRGM or USGS, has already yielded the discovery at Abu Salal
- The licences cover some of the most prospective areas in Saudi Arabia for gold and polymetallic mineralisation

Gold and Minerals' portfolio of exploration licences includes:

- The Abu Salal South, Abu Salal North and Umm Al Khabath licences situated within the Wadi Bidah Mineral Belt, and located south of Hawiah
- Two new licences situated to the north and south of the original Jibal Qutman licence
- The Wadi Na'afa and Al Awja licences situated in the Lorelon Mineral Belt, and within the Asir terrane in a part of the western Arabian Shield which has only recently become easily accessible
- The Jabal Selm exploration licence located roughly midway between Hawiah and Jibal Qutman
- The Jadib al Qahtanah exploration licence in the central part of the Arabian Shield
- The Jabal Hillit and Qunnah exploration licences situated in the eastern part of the Arabian Shield

These licences represent a number of new frontiers for KEFI. Altogether, Gold and Minerals now holds some 1,035km² of tenements in Saudi Arabia covering some of the most highly prospective areas for gold and polymetallic VMS mineralisation in the Kingdom.

Wadi Na'afa and Al Awja exploration licences

In January 2023, KEFI announced the award of two licence areas in the Lorelon Mineral Belt, some 70km south of Bisha and within the Asir terrane in the western part of the Arabian Shield. Previously accessible only on foot or by helicopter, recently completed roads have made access simple. Both areas represent enticing gold exploration targets. The two licences, located about 20km apart, cover a combined area of ~113 km².

The areas host the same arc volcanics as the known Muhaddad VMS deposit that is situated some 50km to the north-east. There are underexplored alteration zones extending as much as 3.5km with grades of up to 11.65 g/t gold demonstrated in Gold and Minerals' rock chip samples.

Mineralisation in the area presents at surface as north trending, Au-Ag-Cu bearing, structurally controlled quartz veins and stockwork. The only modern exploration to have taken place over the sites was conducted by Riofinex in the 1980s.



Figure 37: Wadi Na'afa and Al Awja exploration licence areas

Source: KEFI

Al Awja is the more advanced of the two licences. It contains ancient mine workings and the ruins of an adjacent ancient mining village. Two iron-oxide anomalies, each about 1.5km by 50m have been identified. The Wadi Na'afa exploration licence area is located about 20km south of Al Awja. It also presents with Au-Ag-Cu bearing, structurally controlled, quartz veins. Similar to Al Awja, there is evidence of ancient mining and a 3.5km by 350m iron oxide anomaly. These surface signals are interpreted as indicating an Au-Ag-Cu source at depth.

Jabal Selm

Jabal Selm is situated in the Al Miyah Mineral District. The licence area is located some 80km north of the town of Bisha in the Makkah District. The prospect hosts an iron oxide-quartz breccia that is exposed intermittently over a northwest trend of 2km with 8 documented gold occurrences. Work completed by USGS in 1982 identified grades as high as 89.2 g/t gold in samples collected from quartz vein and wall rock. Some silver enrichment, up to 8.7 ppm, and copper up to more than 2%, were also detected.



Figure 38: Overview of Jabal Selm exploration area

Source: KEFI

Jadib al Qahtanah

Jadib al Qahtanah is an early stage gold target located 45km from the Mahd Ad Dahab mine, the main gold and silver mine in Saudi Arabia, in the central part of the Arabian Shield. Gold mineralisation presents as quartz veins in a diorite host. In Gold and Minerals' early reconnaissance work, rock chip samples taken from ancient crush dumps returned grades as high as 52 g/t gold.

Large flood basalts related to Red Sea rifting, and which cover a large part of the exploration licence area appear to mask the main area of mineralisation. These flood basalts can be found across the Arabian Shield. They are called 'Harats' in Arabic. At Jadib al Qahtanah, the basalts are relatively thin, typically ranging from 2m to 20m.

The initial plan is to establish the structural framework of the area and the strike extents of the mineralisation particularly as it extends beneath the Harat with geophysics and drilling programs.



Figure 39: Jadib al Qahtanah exploration licence area

Source: KEFI

Jabal Hillit and Qunnah

In July 2022, KEFI announced that Gold and Minerals had been awarded two new exploration licences at Jabal Hillit and Qunnah on initial five year terms. The licence areas are situated about 30km apart and straddle the Ad Dawadimi and Afif terranes in the eastern portion of the Arabian Shield. Together they cover an area of some 184 km². Both areas are prospective for gold mineralisation. Some 23 known gold occurrences have been documented in the licence areas and there are significant ancient workings. Gold has been identified within shear-hosted quartz veins with grades of up to 15.3 g/t gold at Jabal Hillit and 46 g/t gold at Qunnah, as noted by BRGM and USGS. The areas represent an excellent opportunity for discoveries in an area that is both highly prospective and under-explored.

The mineralisation hosted in the licence areas comprises northwest trending gold bearing structurally controlled quartz veins. BRGM and USGS undertook basic mapping and rock chip sampling in the 1970s and 1980s that confirmed the presence of high-grade gold mineralisation and outlined what is now a key area of interest.

At Jabal Hillit, 20 gold occurrences have been mapped across 5 vein packages. These veins, hosted within meta-volcanics, strike discontinuously for 1,500m with widths of up to 2.5m. USGS rediscovered the ruins of the ancient Umm Adher gold mine, now an archaeological site. BRGM sampling of dump piles associated with the old mine returned grades of up to 15.3 g/t gold.

The Qunnah licence area, located 30km west of Jabal Hillit, also demonstrates gold-bearing structurally controlled quartz veins in three main areas. Large crush and dump piles from old workings are evident across the tenement. USGS sampling of this material returned a peak grade of 46 g/t gold.



Figure 40: Location map of the Jabal Hillit and Qunnah exploration areas

Source: KEFI

Appendix 1: Tulu Kapi, Ethiopia

KEFI's expected stake in Tulu Kapi has risen from 45% a few years ago to 80% now.



Figure 41: Identified funding structure

Source: KEFI





Source: KEFI

Location

The Tulu Kapi project is located in Western Ethiopia in the Oromia Region. It lies 360km due west from the capital, Addis Ababa. By road, the journey from the capital is 520km and takes about 10 hours. The project is also accessible by air. Ethiopian Airlines operates daily flights from Addis Ababa to Asosa, in western Ethiopia. Asosa is about a four-hour drive from Tulu Kapi. There is also an airstrip at Ayra Guliso, located 30km from the project site. Aircraft can be chartered from Addis Ababa. The road journey from Ayra Guliso by a mixture of gravel and dirt roads take about 2 hours.

The project area lies some 9km south of the village of Kelley. The small town of Ayra lies 20km to the west, and Gimbi, an important market town lies 32km to the east northeast. The larger regional centre of Nekemte is about 100km east of the project.



Figure 43: Tulu Kapi project location

Source: KEFI

Licensing and tenements

The project area is characterised by rounded hills, and deep incised valleys. Elevations vary from 1,550m to 1,770m. The project is situated on a ridge with water drainage to the north and south. Groundwater in the project area is situated in two aquifers. The mining license area is 7km².

Land use in the area is mainly for agriculture. Ridges are usually left to grass for cattle. Hill sides are terraced for seasonal crops including corn, maize, teff (an ancient grain from the Horn of Africa, most notably Ethiopia and Eritrea), and other staples. The valleys are typically forested, and provide good cover for coffee plantations. Rainfall is seasonal. There is a pronounced monsoon season from July to September. Daily temperatures range from 13°C to 32°C immediately ahead of the rainy season, and from 14°C to 24°C in July and August, which are typically the coldest months. Exploration activities can be maintained year-round, with activities somewhat reduced during the rainy season. Commercial scale mining activities will be maintained year-round.

Project history

Small-scale surface mining took place in the 1930s, though there is no evidence of sustained artisanal efforts. This probably reflects the fine nature of the gold mineralisation. The earliest modern exploration did not take place until the 1970s, when reconnaissance level work was undertaken under the guidance of the United Nations Development Program. The project was only drilled in earnest in 2005 to 2009 when Minerva drilled 34 holes. KEFI acquired the project in two stages in 2013 and 2014.

In April 2015, under KEFI's ownership, the former exploration licence was converted to a Mining Licence. This licence gives KEFI the right to build and operate a mine at Tulu Kapi. The company also has a Mining Agreement with the government of Ethiopia that sets out things like taxation and royalties. The licence and agreement are valid for 20 years. The mining licence can be renewed for periods of a further ten years. Since acquiring the project, KEFI has made a number of changes to the proposed mine plan.

Project history

Period	Entity	Activity	
1930s	Artisanal miners	Small-scale surface mining focused on easily accessible gold-bearing saprolite	
		There is no evidence of consistent artisanal activity in the area	
1939	S.A.P.I.E., Italy	Reported reserves of ~37 koz gold in alluvial deposits, saprolite and quartz veins	
		Exploration ceased in 1941	
1968	Ethiopia	Formation of the Geological Survey of Ethiopia	
1969-1972	UNDP	First 'modern' exploration comprising reconnaissance and detailed mapping	
		Identified the Nejo-Yubdo mineralised belt including Tulu Kapi and satellite deposits	
		Work included 3 diamond holes, 362m, immediately north of the planned open-pit;	
		Best intercepts were 0.7m at 27 g/t gold and 26.2m at 2.8 g/t gold	
1996-1998	Tan-Range Resources	Acquired the Tulu Kapi-Ankori exploration licence (20 km ²) in 1996	
	(Canada)	Exploration included 5 diamond holes, with best intercept of 6m at 2.48 g/t gold	
2005-2009	Minerva Resources	Conducted three phases of diamond drilling totalling 6,908m over 34 holes including the	
		'discovery hole' which returned 37m at 4.61 g/t gold. Minerva also undertook mapping,	
		trenching and ground geophysics.	
2009-2013	Nyota Minerals	Minerva was acquired by Nyota in 2009. Nyota announced a maiden inferred resource of	
		690 koz gold in 2009. Subsequent exploration including 189 diamond holes and 302 RC	
		holes totalling 86,873m supported an updated resource of 1,872 koz in 2012 and a DFS	
		The decline in the gold price in 2013 meant Nyoto was unable to fund the project.	
2013	KEFI	KEFI acquired 75% of the project in December 2013	
2014	KEFI	KEFI acquired the remaining 25% for £750,000 plus 50m shares in June 2014	
2015	KEFI	DFS released for Tulu Kapi	
2017	KEFI	Updated DFS released for Tulu Kapi	
2018	KEFI	KEFI announced plans to increase plant capacity to ~2m tpa	
2020	KEFI	Announced conditional completion of consortium to fund the Tulu Kapi project	
	- Orier Conital		

Figure 44: Snapshot of the project history

Source: KEFI, Orior Capital

In the June 2015 DFS, management recognised the benefits of focusing on a smaller scale selective open-pit mine, delivering 1.2m tpa ore to a conventional CIL plant and, adopting a simple crushing and grinding circuit. At the time, extensive metallurgical work demonstrated that an overall recovery of 91.5% was achievable. Planned gold production was 960,000 oz over 13 years, averaging ~75,000 oz pa. All-in sustaining costs were estimated to be US\$780/oz.

Subsequent to the 2015 DFS, a number of further refinements were identified and incorporated into a

revised DFS in June 2017. This included increasing the capacity of the process plant from 1.2m tpa to 1.5m tpa, replacing the SAG and ball mill with a larger SAG-only mill, increasing the target grind to 150 μ m, relocating the tailings storage facility downstream to reduce capex, and a plan for mine operations to be undertaken by an experienced African mine contractor.

The original plan was for the mine to be owner operated. This would have entailed training a local workforce with little experience in mining to a level where it could achieve the high productivity rates associated with modern mining. While still achievable, management decided to use an experienced contract miner which reduces start-up and operating risks and also results in lower initial capex.

The increase in processing capacity in the 2017 DFS essentially involved the earlier processing of material that would otherwise have been stockpiled for later years of the mine life.

In May 2018, after discussions with the project funding consortium, KEFI published its 2018 Plan. Planned processing plant capacity was further increased to 1.9m tpa to 2.1m tpa, in a bid to accelerate project cash flows. This forms the basis of the 2020 Plan.

The 2023 Mine Plan integrates a conservative 200,000 oz of production from the underground mine. The forecasts herein are based on a processing rate of 2.4Mtpa. This is 20% above nameplate capacity and the extra capex has been factored into cashflows.

	• •	•		
2015 DFS	2017 DFS	2020 Plan	2023 Plan	2024 Orior
13	10	8	8	8
Owner	Contractor	Contractor	Contractor	Contractor
7.4:1.0	7.4:1.0	7.4:1.0	6.2	6.2
1.2	1.5-1.7	1.9-2.1	2.0	2.4
15.4	15.4	15.4	18.4	19.2
2.1	2.1	2.1	2.2	2.4
91.5%	93.3%	93.3%	93.7%	92.7%
961,000	980,000	980,000	1,193,000	1,256,000
95,000	115,000	140,000	157,400	170,700
724	801	856	949	992
	937	1,066		
50	60	78	142	174
3.5	3	3	2.8	2.6
	13 Owner 7.4:1.0 1.2 15.4 2.1 91.5% 961,000 95,000 724 50	13 10 Owner Contractor 7.4:1.0 7.4:1.0 1.2 1.5-1.7 15.4 15.4 2.1 2.1 91.5% 93.3% 961,000 980,000 95,000 115,000 724 801 937 50 60	13 10 8 Owner Contractor Contractor 7.4:1.0 7.4:1.0 7.4:1.0 1.2 1.5-1.7 1.9-2.1 15.4 15.4 15.4 2.1 2.1 2.1 91.5% 93.3% 93.3% 961,000 980,000 980,000 95,000 115,000 140,000 724 801 856 937 1,066 50 60 78	13 10 8 8 Owner Contractor Contractor Contractor 7.4:1.0 7.4:1.0 7.4:1.0 6.2 1.2 1.5-1.7 1.9-2.1 2.0 15.4 15.4 15.4 18.4 2.1 2.1 2.1 2.2 91.5% 93.3% 93.3% 93.7% 961,000 980,000 980,000 1,193,000 95,000 115,000 140,000 157,400 724 801 856 949 937 1,066 50 60 78 142

Source: KEFI, Orior Capital

Geology and mineralisation

The primary mineralisation at Tulu Kapi is hosted in mafic syenite. Unaltered syenite is predominantly a medium to coarse-grained rock comprising 60-70% pink to white alkali feldspar, 20-25% plagioclase, and 10-15% ferromagnesian minerals, and minor interstitial quartz. Mineralisation is associated with shallow (30°) northwest dipping zones of dense quartz-veining, enveloped by an auriferous highly albitised, metasomatic alteration centred on the Bedele shear zone. The albitised zones are lensoid in nature and comprise discrete stacked bodies that pinch and swell both along strike and down dip. Large-scale fault structures trending northeast-southwest have been identified within the Tulu Kapi deposit, but the displacement of the mineralisation is minor.

Appendix 2: Saudi Arabia

The Saudi Arabian part of the Arabian-Nubian Shield is a vast area stretching some 1,500 km north to south, and 800 km east to west. The area has a long and rich history of gold mining dating back to around 3,000 BC. The Mahd adh Dhahab mine (مَـهد الـدّهـب, literally 'Cradle of the Gold'), located mid-way between Mecca and Medina, is believed to be the fabled King Solomon's Gold Mine, and has been linked to the story of the Garden of Eden in the Book of Genesis. It has been estimated to have produced more than 6 Moz gold since antiquity. From the 1970s to the mid-1980s, USGS and its French counterpart, Bureau de Recherches Géologiques et Minières (BRGM) were commissioned to document and evaluate mineral occurrences in Saudi Arabia. More than 5,000 historic mines and occurrences were discovered.

Despite this rich history, Saudi Arabia remains relatively under-explored in modern times. Today, there are only a handful of operating mines including Mahd adh Dhahab (gold), Jabal Sayid (VMS), Al Masane (VMS), Al Amar (VMS), and Mansourah-Massarah (Gold). Opportunities abound; since 2000, state-owned mining company Ma'aden has discovered some 8 Moz gold in the Central Arabian Gold region.

The Jabal Sayid copper operation is a 50:50 joint venture between Barrick and Ma'aden located some 350km northeast of Jeddah. The mine hosts copper resources of ~1.64bn lbs copper at a grade of ~2.4% Cu. Commercial operations commenced in July 2016. According to Barrick, the mine produced 152m lbs copper in 2021 at an all-in sustaining cost of US\$1.33/lb.

Patience pays off

This vast and relatively under-explored minerals wealth, combined with KEFI's experience in country offers something of an advantage. KEFI has been evaluating prospects in Saudi Arabia since 2008. KEFI's local partner, Abdul Rahman Saad Al Rashid and Sons Company Limited ("ARTAR") is a leading local industrial group owned by Sheikh Al Rashid and his family. The group has investments in construction, real-estate, agriculture, and health care in Saudi Arabia, and overseas. ARTAR owns a 75% stake in Gold and Minerals, with KEFI owning the remaining 25%. KEFI nominates the CEO and proposes or reviews all business plans for JV approval.

Gold and Minerals has built a substantial proprietary database; quiet persistence over the past decade, and a strong local partner, is now paying off in terms of projects being rapidly advanced and new exploration licences being awarded.

New mining code aims to attract investment

Saudi Arabia's new mining code came into effect in 2021. Its ambitious aim is ultimately to make the mining sector a third leg to the Saudi economy after oil and petrochemicals.

The Saudi economy has been heavily dependent on oil since the 1970s. According to the CIA, the Kingdom possesses ~16% of the world's proven petroleum reserves, and is the largest exporter of petroleum. The petroleum sector accounts for ~87% of budget revenues, some 42% of GDP, and about 90% of export earnings. Since Saudi Arabia's accession to the WTO in 2005, the government has pursued reforms aimed at diversifying the economy, attracting foreign investment and weening the country off its oil dependence. In April 2016, the government announced a broad set of socio-economic reforms, known as Vision 2030. Low prices and high unemployment rates (in 2019, youth

unemployment was ~28%) seem to have provided further impetus to these reforms. Saudi Arabia has a relatively young population, with about 40% of the populace under the age of 25. Saudi officials are particularly focused on employing its large youth population.

Saudi Arabia did introduce new mining regulations in 2004. The code allowed for companies to be 100% foreign owned, included a flat corporate tax of 20%, no royalties on minerals, had no restrictions on foreign exchange or capital repatriation, and included exemptions from import duties on capital items. On paper this provided for an attractive environment, though implementation was lacking. Recognising a need to do justice to the potential of the mining sector, and a desire to diversify the economy, Saudi Arabia's Ministry of Industry and Mineral Resources unwrapped its new mining law In June 2020.

The new law includes 63 articles that address a wide range of issues including financial consideration, sustainability, powers to grant licenses, sector governance and others. The numerous objectives of the new law include encouraging investment in the minerals and related downstream industries, streamlining the procedures for licence applications, and tightening the rules around sustainability.

Since the new mining code was introduced, Saudi Arabia has reportedly received more than 1,500 licensing requests. The Kingdom reportedly wants to attract as much as US\$170bn in new mining investment by 2030.

In March 2022, Al Masane Al Kobra Mining Co (AMAK) listed on the Saudi Stock Exchange, raising US\$333m at a price of SAR63/share, for a 30% stake. According to argaam.com the institutional offering was oversubscribed 73.6x.

In January 2023, several new initiatives were announced around the Futures Minerals Forum held in Riyadh. The Saudi Arabian sovereign wealth fund, Public Investment Fund (49%), and Ma'aden (51%) announced a new mining fund that may invest up to US\$15bn in overseas assets, according to reports. In a model that looks similar to that of Japanese trading houses in Japan's post-war industrialisation, the plan seems to be to seek non-operating minority stakes in projects that would help Saudi Arabia secure resources.

Ma'aden has established a 50:50 joint venture with Ivanhoe Electric to explore a vast 48,500 km² area (larger than Denmark) in Saudi Arabia, and invested US\$127m in Ivanhoe Electric for a 9.9% stake. The venture will have access to proprietary geophysical surveying technology aimed at detecting sulphide mineralisation. The JV is targeting Al Amar (the area around Ma'aden's Al Amar mine), Wadi Bidah (where Gold and Mineral's Hawiah project is) and Bir Umq, as high priority targets for 2024 and 2025 exploration.

Further, Ma'aden and Barrick Gold have signed two new joint venture agreements for exploration licences at Jabal Sayid South, adjacent to the existing Jabal Sayid mine, and at Umm Ad Damar.

Figure 46: Major amendments to the new mining law and expected impact

Broad area, and policy objectives	Expected impact
Financial consideration, and encouraging investment	Achieve equitable outcomes for all investors
Determine financial consideration for exploitation	Boost the Kingdom's revenues
Notivate investors to process raw materials within the	Encourage downstream investment
Kingdom, by cutting consideration for such investments	Provide local raw materials
	Clarifying regulatory requirements for potential investors
	Providing financial incentives to support sector
Sector governance	Boost the Kingdom's revenues
Provide modern technical and financial resources	Increase mining operations
Achieve financial commitment and optimise utilisation of	Ensure licence holders comply with best technical and
resources	environmental practice
Evaluate requirements for obtaining licences	Reduce violations, to raise investment attractiveness
	Increase monitoring efficiencies using modern technology
	Create jobs for local communities
Sustainability	Develop local communities and provide job opportunities
Obligate licence applicants to submit environmental studies	Increase local contribution to local development
and development plans	Protect rights of local communities and contribute to
Obligate exploitation licences holders finance rehabilitation	economic development of under-developed regions
and mine closure	Attract Saudi youth to work in the sector
Reduce violations by assessing causes, increasing fines	Ensure standards are in place to monitor environmental
	compliance, health, and safety
	Promote social licensing and make mining welcome in
	communities
icenses regulations	Increase number of local developers and small investors
Allow issuance of licenses for small mines	Find financing channels for mining licenses
Relax requirements and loosen procedures for mining	Provide safe, attractive investment environment
Licences for small investors	Provide clarity, transparency for mining licences
	Increase geological and statistical information
	Increase exploration spending
Powers to grant licenses	Ensure stability of mining license over its validity
Facilitate process of issuing licenses, and reserve mining	Increase transparency in Ministry's powers to enhance
areas for investment	client confidence
Determine which lands are excluded from the law and	Develop mineral deposit areas
which lands require approval for mining licences	Reduce procedures period
	Eliminate duplication of local land regulations
	Have clear governance to determine land-use powers
	Reduce investors' risk, to encourage investment
Sustainable financing	Grant the Ministry a sustainable source of funding for long
Establish a mining fund at the Ministry	term contracting and reducing program costs
	Assist with exploration and geological survey activities
	Support rehabilitation of abandoned mines
	Provide sustainable funds for Mining Services Co.
	Support development of mining sector personnel

Source: Argaam.com, Orior Capital

Appendix 3: The Arabian-Nubian Shield

The Arabian-Nubian Shield is an accretionary orogeny at the northern half of a great collision zone called the East Africa Orogeny. It evolved between about 870 Ma (million years ago) and 550 Ma, and represents one of the largest tracts of juvenile Neoproterozoic crust in the world. The Shield measures more than 3,500 km north to south, and at its widest, more than 1,500 km east to west. It underlies an area of ~2.7 million km². The Shield is exposed as part of the Sahara Desert and the Arabian Desert in the north, and in the Ethiopian Highlands, Asir Province in Saudi Arabia, and the Yemen Highlands to the south. It outcrops in nine countries; Jordan, Israel, Saudi Arabia, Egypt, Yemen, Sudan, Eritrea, Ethiopia and Kenya.

The region has a long history of geological activity, and was host to some of man's earliest mining efforts; ancient Egyptians mined gold from Egypt and northeast Sudan. The earliest preserved geological map, known as the Turin papyrus and showing gold deposits in eastern Egypt, dates back to 1,150 BC. Gold at Tulu Kapi is hosted in syenite. 'Syene' is the Greek name for Aswan, where the ancient Egyptian's mined granite. In Saudi Arabia, gold, silver, copper, zinc, tin and lead have been mined for at least 5,000 years.

Tectonic setting

The East Africa Orogeny collision zone formed towards the end of the Neoproterozoic period when East and West Gondwana collided, forming the 'supercontinent' Gondwana. This process commenced with the break-up of former supercontinent Rodinia, the formation of oceanic basins, such as the Mozambique Ocean, and the growth of the shield, around 870 Ma. Shield growth lasted for 300 million years. Subduction zones were shaped within these basins, forming oceanic volcanic arcs. According to Abu Alam et al, two types of suture zone formed in the Arabian-Nubian Shield during the collision of these volcanic arcs. Arc-arc sutures trend mostly NE-SW and represent the zones of closure of the Mozambican basins between volcanic arcs at ~800 Ma to 700 Ma. Following these arc-arc collisions, the Arabian-Nubian Shield collided with pre-Neoproterozoic continental blocks (the Sahara Metacraton) around 680 Ma to 630 Ma. These arc-continent sutures trend north-south. Final assembly of the Arabian-Nubian Shield occurred around 550 Ma.

Shear-zone hosted gold mineralisation of the Arabian-Nubian Shield: devolatilization processes across the greenschist-amphibolite-facies transition; Tamer Abu-Alam, Mohammad Abd El Monsef and Eugene Grosch

Late Cryogenian–Ediacaran history of the Arabian–Nubian Shield: A review of depositional, plutonic, structural, and tectonic events in the closing stages of the northern East African Orogen, 2011; P.R. Johnson, A. Andresen, A.S. Collins, A.R. Fowler, H. Fritz, W. Ghebreab, T. Kusky, R.J. Stern

An Expanding Arabian-Nubian Shield Geochronologic and Isotopic Dataset: Defining Limits and Confirming the Tectonic Setting of a Neoproterozoic Accretionary Orogen, 2014; P.R. Johnson

Tulu Kapi Gold Project: A history of repeated discoveries in Western Ethiopia; Fabio Granitzio, Jeff Rayner and Tadesse Aregay

Gold-bearing volcanogenic massive sulphides and orogenic-gold deposits in the Nubian Shield, P.R. Johnson, B.A. Zoheir, W. Ghebreab, R.J Stern C.T. Barrie, R.D. Hamer, 2017

Figure 47: Structural and metamorphic map of the Arabian-Nubian Shield, showing tectonostratigraphic terranes, suture zones, the boundary between eastern and western arc terranes in the Arabian Shield and boundaries between the Arabian-Nubian Shield and flanking older crustal blocks. Arrows show displacement trajectories and sense-of-shear during transpressive orogenic phases in the region.



Source: An Expanding Arabian-Nubian Shield Geochronologic and Isotopic Dataset: Defining Limits and Confirming the Tectonic Setting of a Neoproterozoic Accretionary Orogen



Figure 48: Schematic illustration of stages in the development of the Arabian-Nubian Shield showing its setting in the supercontinent cycle, bracketed by the break-up of Rodinia and the assembly of Gondwana

Source: Late Cryogenian–Ediacaran history of the Arabian–Nubian Shield: A review of depositional, plutonic, structural, and tectonic events in the closing stages of the northern East African Orogen

Geological setting

The Arabian-Nubian Shield comprises mostly low-grade, greenschist metasedimentary and metavolcanic rocks, derived from ocean island-arc volcanism. Greenschists are metamorphic rocks that formed at low temperatures of 300-500°C and low pressures of 3-20 kbar, at crustal depths of 8-50 km. Ophiolites, pieces of oceanic crust that have been lifted above sea level onto the edges of continental plates, are abundant across much of the shield, from its northern extreme, almost to the equator. They range in age from 890 Ma to 690 Ma, documenting some 200 million years of oceanic magmatism, and they are found in suture zones dating from 780 Ma to 680 Ma, reflecting 100 million years of terrane convergence. High-grade metamorphic rocks were exhumed from beneath the low-grade sequence both in extensional and compressional settings. The Shield was intruded by plutonic rocks (igneous rocks formed at great depth) in different tectonic settings. Finally, younger rocks including dykes, molasses-type sedimentary rocks (sandstones, shales), potassium rich ('high-K') volcanic rocks, and alkaline granitic rocks were formed during the later tectonic stages of the Shield's evolution.

Gold deposits

The Arabian-Nubian Shield hosts a number of different gold deposit styles, in a variety of tectonic settings. The occurrences are predominantly late Cryogenian–Ediacaran (650 Ma to 542 Ma) orogenic-type gold in a variety of structural and lithologic settings, though there are a variety of other deposit types. In the Arabia Shield, Madh Ad Dhahab and Al Amar are both epithermal gold, Ar Rjum and Ad Duwayah are intrusive related, and Mansourah and Mansarrah are listweanite deposits. In the Nubian

Shield, the main deposit types are orogenic gold and gold associated with VMS mineralisation. Gold bearing VMS deposits are mined at Bisha (Eritrea) and at Hassai (Sudan). Orogenic gold is mined at Sukri and Hamash in Egypt, in Sudan, Eritrea, and at Lega Dembi and Sakaro in Ethiopia.

This combination of the subduction-related origin of the Shield, widespread shearing, and metamorphism associated with late Neoproterozoic orogeny are highly favourable for the development of these types of gold deposits. **The Arabian-Nubian Shield hosts the largest known Neoproterozoic gold resource on Earth.**



Figure 49: Simplified plot of gold occurrences in the Arabian-Nubian Shield



Tulu Kapi in Western Ethiopia, and Lega Dembi in Southern Ethiopia are both orogenic gold deposits. The Tulu Kapi deposit is hosted by syenite in strongly sheared metavolcanic and metasedimentary rocks in what is known as the central volcano-sedimentary terrane greenstone belt.





Volcanogenic massive sulphide (VMS) deposits

Hawiah is an example of VMS mineralisation. VMS deposits are an important source of copper, accounting for ~6% of global production, as well as a significant supplier of zinc (~22%), lead (~10%), gold (~2%) and silver (~9%). VMS deposits tend to follow tectonic plate boundaries and ancient underwater volcanic activity and tend to occur in clusters, with sometimes as many as 20 or more such deposits within an area of several tens of square kilometres. This clustering of ore lenses in close proximity, and the polymetallic nature of the deposits suggests potential for long-term production. The Arabian-Nubian Shield hosts a number of notable VMS deposits including Bisha (Nevsun and Zijin Mining) and Asmara (Sichuan Road and Bridge Mining Investment Development) in Eritrea, Hassaii (Ariab) in Sudan, and Jabal Sayid (Barrick and Ma'aden) and Al Masane (Al Kobra Mining) in Saudi Arabia.

Source: Gold-bearing volcanogenic massive sulphides and orogenic-gold deposits in the Nubian Shield; P.R. Johnson et al, 2017



Figure 51: Formation setting for the Hawiah deposit, modified after Volesky, 2017

Appendix 4: Companies mentioned

Company	Code		
KEFI Gold and Copper	KEFI.L		
Allied Gold	AAUC.TO		
B2Gold	BTO.TO		
Chifeng Jilong	600988.SS		
Dundee Precious Metals	DPM.TO		
Endeavour Mining	EDV.TO		
Fortuna Silver	FVI.TO		
Galiano Gold	GAU		
Ivanhoe Electric	IE		
Newcore Gold	NCAU.V		
Orezone Gold Corp	ORE.V		
Osino Resources	OSI.V		
Pan African Resources	PAF.L		
Perseus Mining	PRU.AX		
Predictive Discovery	PDI.AX		
Resolute Mining	RSG.AX		
Robex Resources	RBX.V		
Roscan Gold	ROS.V		
Shandong Gold	1787.HK		
Shanta Gold	SHG.L		
Theta Gold	TGM.AX		
Thor Explorations	THX.V		
Tietto Minerals	TIE.AX		
Toubani Resources	TRE.V		
West Africa Resources	WAF.AX		
Yintai Gold	000975.SZ		
Zhaojin Mining	1818.HK		

The author

Simon Francis is a UK qualified chartered accountant with significant experience in the natural resources and minerals sector. Simon led research in the sector in various roles at major financial institutions including Macquarie, Samsung and HSBC, in a career spanning more than 20 years. He has been involved in approximately US\$4bn of capital raising, for a number of natural resources companies. Simon has been engaged in the financing of early stage companies using production agreements, and has privately funded exploration companies in various metals and jurisdictions. Simon seeks to deploy capital in undervalued mining and resources opportunities that have been missed by the market.